



THE AMERICAN

# School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION

VOLUME 122, NUMBER 1

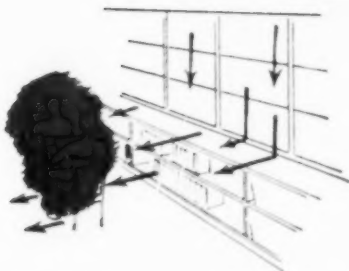
JANUARY, 1951

# PUPILS DON'T HAVE TO CATCH COLD

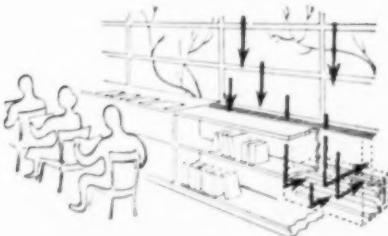


*This room without DRAFT|STOP presents a problem of uneven temperatures*

## LET **DRAFT|STOP** CATCH IT!



*DRAFT HAZARDS are ever present in this classroom. Above you see how cold air travels unhindered, presents a cold front problem of discomfort and possible illness.*



*MODERN VENTILATION with the new DRAFT|STOP System ends this threat. See how drafts and cold air are controlled. DRAFT|STOP will stop the draft before it can start trouble.*

**C**HILDREN in schoolrooms don't have to withstand chilling down-drafts when new DRAFT|STOP is in service. The new DRAFT|STOP System, developed by Herman Nelson, traps drafts to protect the health and comfort of pupils in classrooms. By introducing the proper amount of fresh air automatically, stuffy air and overheating are eliminated; students are alert and more receptive.

This new concept of better ventilation, new as the year 1951, is necessary for assured comfort and welfare of children. Whatever your connection with the equipment installed in schools, make certain DRAFT|STOP is specified.



**TODAY'S BEST  
BUY IS BETTER AIR**

**WRITE TODAY** for this new booklet explaining the vast difference—advantages obtainable only with the new DRAFT|STOP System. Write Dept. AJ-1.



## HERMAN NELSON

*Division of* **AMERICAN AIR FILTER COMPANY, INC.**  
PLANTS IN MOLINE, ILLINOIS AND LOUISVILLE, KENTUCKY

See DRAFT|STOP at School Administrators Convention, Atlantic City—Feb. 17 to 22



# Leadership



*is not the result  
of luck...  
it is won on merit*

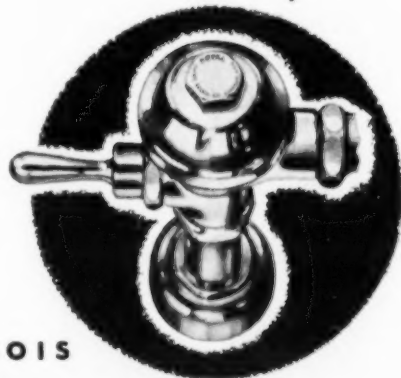
**True leadership** is a challenge far greater than competition itself, for that leadership, representing the very best, challenges the capacity of a man or a business to do even better.

**In October 1906** when the first SLOAN *Flush* VALVE was made, other flush valves were already on the market. Each had equal opportunity to grow—to become a contender for leadership. But none have threatened Sloan superiority.

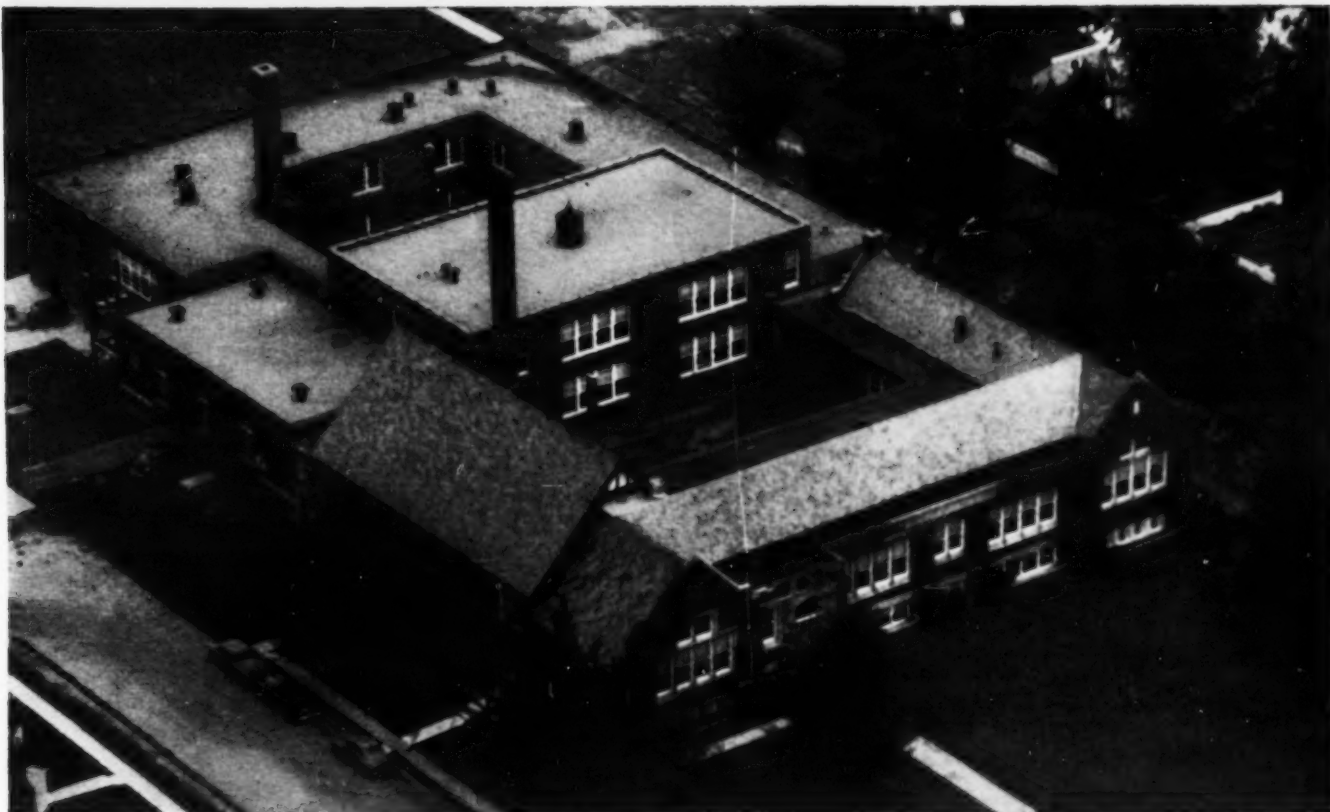
**Sloan's challenge today** is in its own leadership and we are constantly striving to make our Flush Valves even better.

Our obligation is to continue to merit the preference indicated by the fact that...

more **SLOAN** *Flush* **VALVES**  
are sold than all other makes combined



SLOAN VALVE COMPANY • CHICAGO • ILLINOIS



Amherst District No. 18 School, Amherst, N. Y., is fire-safe because it combines Bethlehem Open-Web Joists with concrete floors and plaster ceilings. Architect: William C. Lurkey, Buffalo, N. Y. Contractor: L. A. Monroe, Buffalo, N. Y.

*Think first of*

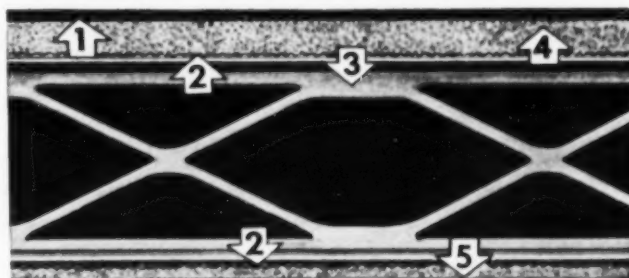
## FIRE-SAFETY

**W**HEN considering the requirements for your next school building, think first of fire-safety.

Schools that are protected against the hazard of fire are essential today. Fire-safe schools can be built, even within budget limitations, by using Bethlehem Open-Web Joists in combination with concrete floor slab and plaster ceiling. This method of construction not only provides floors which are non-combustible, but also permits maximum area between firewalls.

Besides fire-safety, Bethlehem Joists offer other important advantages. They are economical because they are so easy to install, and because they simplify the work of other trades by permitting pipes and wiring to be run through the open webs of the joists. They make possible floors which are shrink-proof and sound-retardant, as well as resistant to vibration. They are immune to attack by vermin. They can be used in roof construction as well as in floors.

For complete details about the use of Bethlehem Joists in building schools, get in touch with your architect. Or drop a line to us at Bethlehem, Pa.



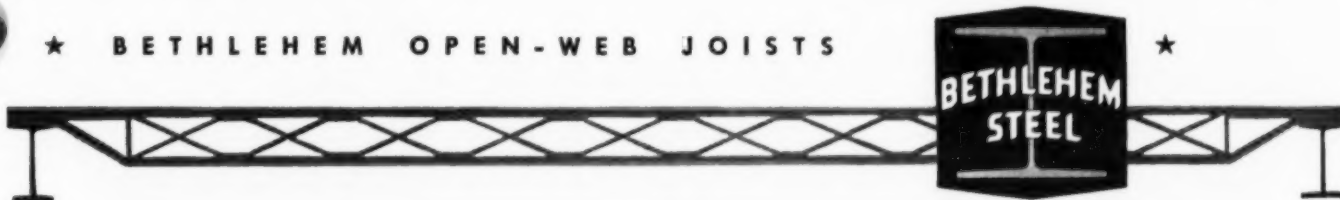
1. Asphalt tile or other finish. 2. Metal lath. 3. Steel joist. 4. Concrete slab. 5. Plaster ceiling.

Cross-section of typical Bethlehem Joist installation. Concrete and plaster prevent spread of fire. Asphalt tile, linoleum or other finishes may be used.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

★ BETHLEHEM OPEN-WEB JOISTS ★



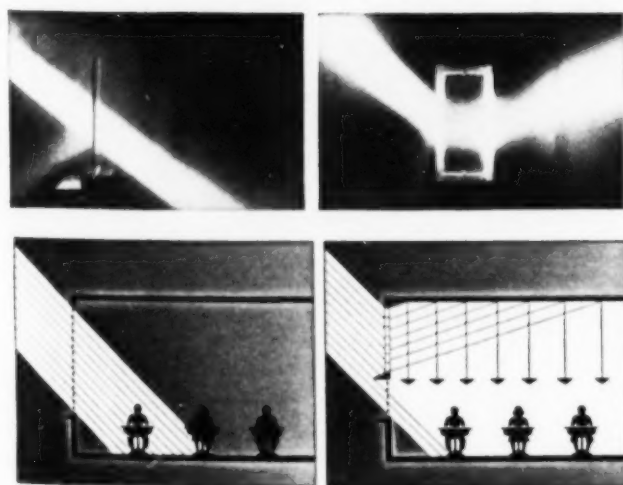


St. Louis University High School, St. Louis, Mo., replaces old windows with Insulux Fenestration, designed according to Daylight Engineering principles.



St. Louis University High School, St. Louis, Mo., after old sash and windows have been replaced with a modern Insulux Fenestration System, Daylight Engineered.

## BEFORE Daylight Engineering



Above, child near ordinary window gets harsh brightness and glare, others suffer from high degree of contrast, need overhead light. Right, light beams striking Insulux Glass Block No. 363. See how built-in prisms route light UP, and spread it. Result is even, diffused light over all parts of classroom.

## AFTER BEING Daylight Engineered

Good seeing conditions in schools depend more on light quality than on light quantity. Good seeing exists when glare and contrast are minimized and light is evenly distributed over inside areas.

Daylight Engineering can help you build school rooms with the right quality and quantity of daylight. An Insulux Fenestration System using the new Insulux light directing Glass Block No. 363 eliminates excessive glare, harsh contrasts, provides even, diffused daylight for all the students in the classroom.

By the use of entirely new optical principles these glass blocks capture and properly use daylight from early morning to late afternoon, just as though your building was "turning with the sun."

Send for our new, free 24-page booklet, "Better Light for Our Children." For help in planning for and using Insulux Fenestration in your school, our Daylight Engineering Laboratory and Staff are at your service. Write: Daylight Engineering Laboratory, Dept. AS1, Box 1035, Toledo 1, Ohio. (Insulux Division, American Structural Products Company, subsidiary of Owens-Illinois Glass Company.)



# INSULUX FENESTRATION SYSTEMS

— by the pioneers of Daylight Engineering



# SCHOOLS ARE VITALLY CONCERNED with **AIR INFILTRATION** Through Windows Laboratory Testing Gives You The Facts on...

**Auto-Lok**  
PATENTED  
weatherstripped  
ALUMINUM  
AWNING WINDOWS

Here is the  
**REPORT**  
of the

## PITTSBURGH TESTING LABORATORY

The report states simply and convincingly that our **AUTO-LOK** Window showed air infiltration of only

"0.095 cfm per foot at a static pressure equivalent to 25 mph."

## A CLOSURE TEN TIMES AS TIGHT

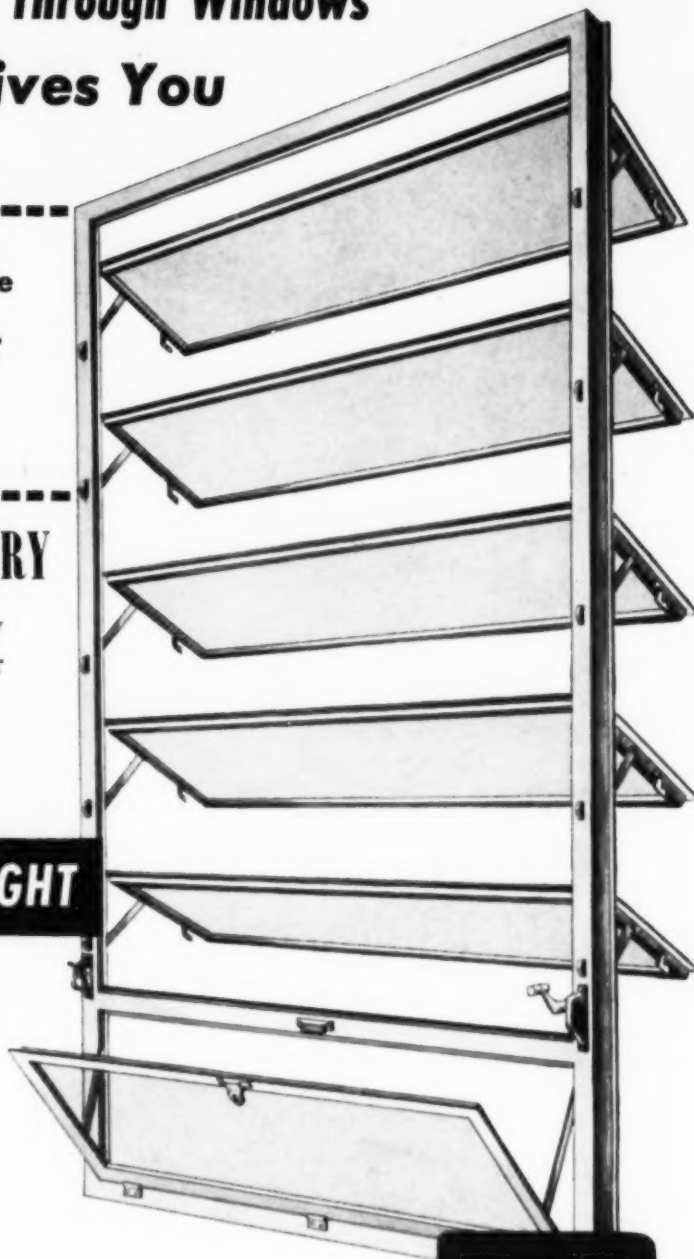
A rate of air infiltration of only 0.095 cfm is *amazingly* low. It is the equivalent of a closure at least *ten* times as tight as the generally accepted requirements for casement and projected windows.

**AT LAST!** Year 'round pupil comfort. Auto-Lok's tight closure eliminates dangerous "cold spots" common to most windows...and when you want it, 100% ventilation...even when it's raining... with just a few simple turns of the operator.

**AUTO-LOK**, the all-climate awning window, is fast becoming the first choice with schools the country over, because it:

- reduces air infiltration to a minimum.
- reduces maintenance costs.
- slashes fuel bills.
- makes air conditioning more economical.
- provides positive protection against all climatic extremes.
- assures draft-free ventilation...even when it's raining.
- can be cleaned entirely from the inside.

For pupils' comfort -- for reduced sick rolls, for minimum maintenance, consider Auto-Lok. We shall be glad to furnish names of other schools which warmly endorse this proven product. Our engineering department is at all times at your disposal to assist with window planning.



it's  
sealed  
like a  
refrigerator

Write for nearest distributor's address and for free folder, "What Is Important In A Window?" address Dept. AS-1

**LUDMAN**  
CORPORATION

P. O. Box 4541

Miami, Florida

I like the added protection  
**CERTIFIED  
BALLASTS**  
provide!



PROTECT YOURSELF WITH . . .

## CERTIFIED BALLASTS

**CERTIFIED BALLASTS** usually outlast the life of a fluorescent lighting installation.

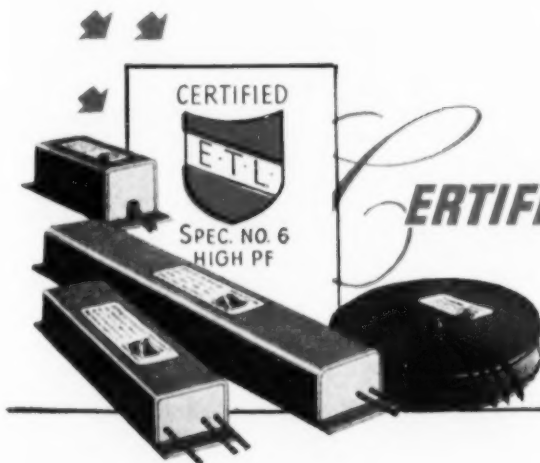
This assures customer satisfaction . . . protects you against complaints and costly replacements.

**CERTIFIED BALLASTS** have long, satisfactory life, assure rated light output and full lamp life because they are made to exacting specifications, then tested and checked by Electrical Testing Laboratories, Inc., an impartial authority.

You're protected when the fixtures you sell or install are equipped with **CERTIFIED BALLASTS**!

Complete information on the types of **CERTIFIED BALLASTS** available from each participating manufacturer may be obtained from Electrical Testing Laboratories, Inc., East End Avenue at 79th Street, New York, New York.

*Participation in the CERTIFIED BALLAST program is open to any manufacturer who complies with the requirements of CERTIFIED BALLAST MANUFACTURERS.*



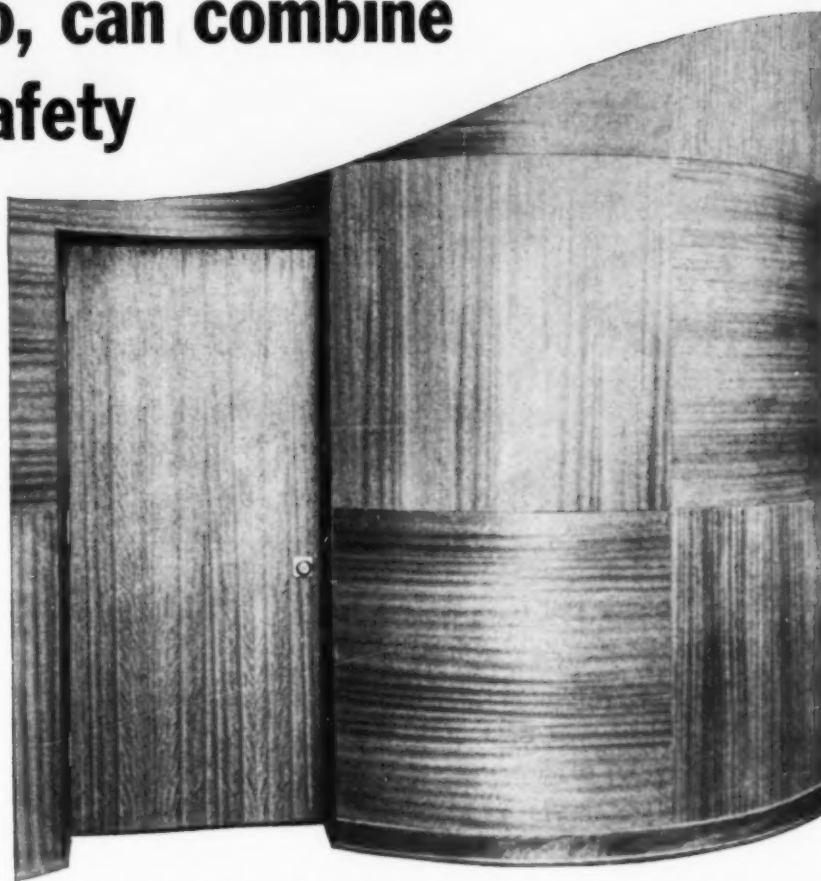
## CERTIFIED BALLAST MANUFACTURERS

*Makers of Certified Ballasts for Fluorescent Lighting*

2116 KEITH BLDG., CLEVELAND 15, OHIO

# **Your school, too, can combine beauty and safety with the WELDWOOD® FIRE DOOR**

**No school  
can afford to be without  
the protection offered by  
this beautiful, inexpensive  
wood-faced fire door**



This Mahogany-Faced Weldwood Fire Door in the Pasadena City College blends perfectly with the Weldwood-Paneled walls. A striking example of the desirable combination of decorative beauty and absolute fire protection that is yours in the Weldwood Fire Door.

Underwriter-labeled for use in Class "B" openings... the Weldwood Fire Door has many qualities school buildings need.

First, it's *safe*. The specially designed Kaylo\* core, plus fireproofed edge banding, give *complete* protection against fire.

Second, it's *beautiful*. The Weldwood Fire Door is available in a wide variety of decorative hardwood veneers... both imported and domestic. Interiors have the lasting beauty that reflects credit upon public buildings.

Third, the Weldwood Fire Door is *guaranteed* against warping or shrinking.

Light weight is still another virtue. Although it forms an impenetrable barrier to fire, a standard 3' x 7' Weldwood Fire Door weighs only 84 pounds.

Permanent resistance to vermin and decay means

that you'll get long years of service from your Weldwood Fire Doors... with a minimum of maintenance, even under severe service conditions.

Ask your architect to tell you all about Weldwood Fire Doors. They're moderately priced. Or, write us. We'll rush full information immediately.

## **WELDWOOD STAY-STRATE DOOR**

Similar to the Weldwood Fire Door, but without the fire-proofed edge banding. This door does not have the Underwriters' Label, but the incombustible Kaylo core gives it a high degree of fire protection. It is recommended for use where a labeled door is not specified, but where fire resistance is a desirable extra advantage. Same wide variety of beautiful hardwood facings... imported and domestic... to choose from.

\*Reg. U. S. Pat. Off., Owens-Illinois Glass Co.

United States Plywood Corporation carries the most complete line of flush doors on the market including the famous Weldwood Fire Doors, Weldwood Stay-Strate Doors, Weldwood Honeycomb Doors, Mengel Hollow-core Doors, Mengel and Algoma Lumber Core Doors, 1 3/8" and 1 3/4" with a variety of both foreign and domestic face veneers.



## **WELDWOOD FLUSH DOORS**

*Manufactured and distributed by*

**UNITED STATES PLYWOOD CORPORATION**

55 West 44th Street, New York 18, N. Y.

Branches in Principal Cities • Distributing Units in Chief Trading Areas  
Dealers Everywhere



## **THE PREFERRED SCHOOL PLUMBING**

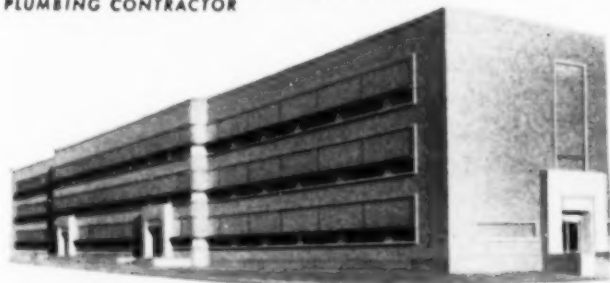


at the **Vocational High School**, Tucson, Arizona

PLACE & PLACE, Tucson, Ariz.  
ARCHITECT

ASHTON-JOYNT CONSTRUCTION CO., Tucson, Ariz.  
GENERAL CONTRACTOR

McDANIEL PLUMBING & HEATING CO., Tucson, Ariz.  
PLUMBING CONTRACTOR



This very popular Crane group includes the Rhodile Lavatory, Sanuro Urinal, and Santon Closet.

Rhodile Lavatory of porcelain enameled cast iron, features high splash back, large rectangular basin. Victor Magiclose self-closing faucets save water and maintenance (control unit interchangeable with *Dial-ese*).

Santon Closet and Sanuro Urinal are impervious vitreous china. Unaffected by ordinary cleaning acids. Keep clean and sanitary with minimum maintenance.

For everything in school plumbing, see your Crane Branch, Crane Wholesaler, or Local Plumbing Contractor

# CRANE

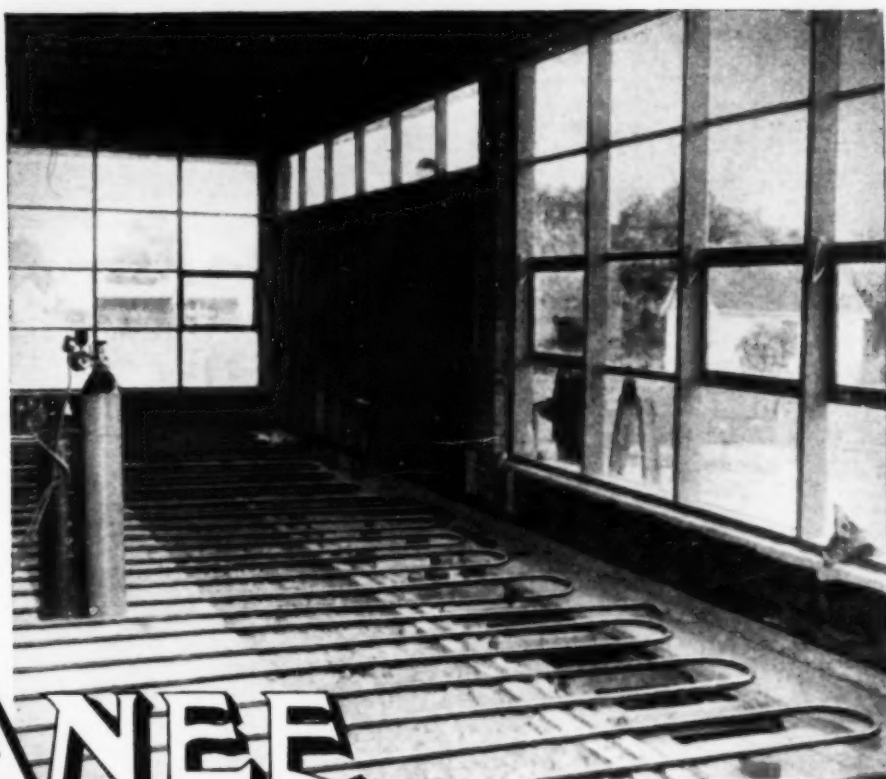
CRANE CO., GENERAL OFFICES:  
836 S. MICHIGAN AVE., CHICAGO 5

PLUMBING AND HEATING •  
VALVES • FITTINGS • PIPE

A PERFECT  
"TEAM-MATE"  
FOR  
EVERY TYPE OF  
HEATING SYSTEM

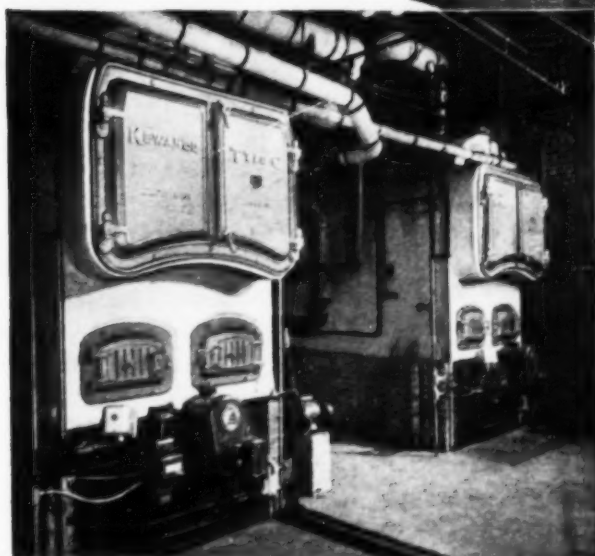
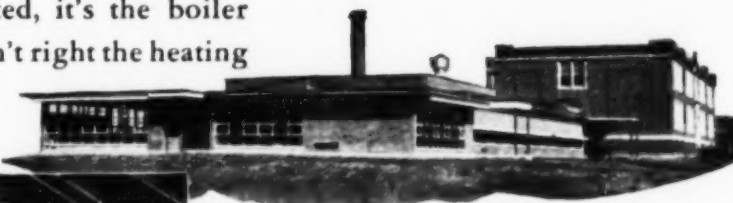
# KEWANEE

STEEL BOILERS



Annex to Fairmont School, Bangor, Maine, while under construction. Photo, courtesy of A. M. Byers Company, shows the radiant heating wrought iron floor coils.

Whether floor or wall coils, radiant baseboards or conventional radiators are selected, it's the boiler that *makes the heat*. If the boiler isn't right the heating system can't be.



In designing a 15 room annex to a Bangor, Maine school the Architects and Engineers; Eaton Tarbell & Associates; provided many extra feet of window area. And, to offset temperatures going down to 20 below zero, teamed two Kewanee Oil Fired Boilers with wrought iron floor coils.

The entire heating system proved so satisfactory that the same architects have specified a similar radiant heating system for another Bangor school . . . and have again specified Kewanee Boilers.

Two Kewanee Boilers make the heat . . . the Radiant Floor Coils convey that heat to the areas to be warmed.

## KEWANEE BOILER CORPORATION

BOILERMAKERS 80 YEARS KEWANEE, ILLINOIS  
Branches in 40 Cities—Eastern District Office: 40 West 43rd Street, New York City 18  
Division of AMERICAN RADIATOR & Standard Sanitary corporation

*Serving home and industry*

AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



## No draft dodgers here

Seat a pupil beside the windows. Have him play on the kindergarten floor. Place him anywhere in any room and he'll never need to dodge a draft in the brand new Merle J. Abbett School\* in Fort Wayne. Besides being one of the most modern schools built in recent Indiana history, the Abbett School is draft free, comfortable and certain to set new health records.

That's because Trane Unit Ventilators are used to bring in good outdoor air. First they remove all the dirt. Then they warm the air and spread it to every nook and cranny of the classroom. Positive dampers and block-offs stop drafts in their tracks. All the air is warmed to the exact degree required.

The exclusive Trane Kinetic Orifice is the secret of that heating. It distributes steam so uniformly throughout the entire heating element that all the air is evenly warmed.

Trane Unit Ventilators are eye-pleasing too. With

their matched shelving they blend with the decorative scheme of any classroom. They are built to withstand the kicks of the most rugged grade school All-American.

For more information on Trane Unit Ventilators and related products that comprise a complete heating and ventilating system, contact your local Trane representative.

\*Architect: F. W. Pohlmeyer, Fort Wayne  
Engineer: J. M. Rotz Eng. Co., Indianapolis  
Contractor: P. B. Arnold Co., Fort Wayne

**THE TRANE COMPANY . . . LA CROSSE, WIS.**  
EASTERN MANUFACTURING DIVISION, SCRANTON, PA.

Manufacturing Engineers of Heating, Ventilating, and Air Conditioning Equipment — Unit Heaters, Convectors, Heating and Cooling Coils, Fans, Compressors, Air Conditioners, Unit Ventilators, Special Heat Exchange Equipment, Steam and Hot Water Heating Specialties

. . . IN CANADA, TRANE COMPANY OF CANADA, LTD., TORONTO

Trane Unit Ventilators add beauty to classrooms and promote health and efficiency by providing clean, tempered air.

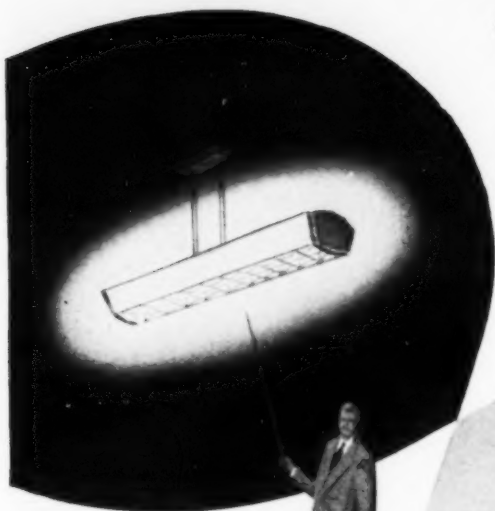




## How the Wakefield STAR provides

# Brightness Balance

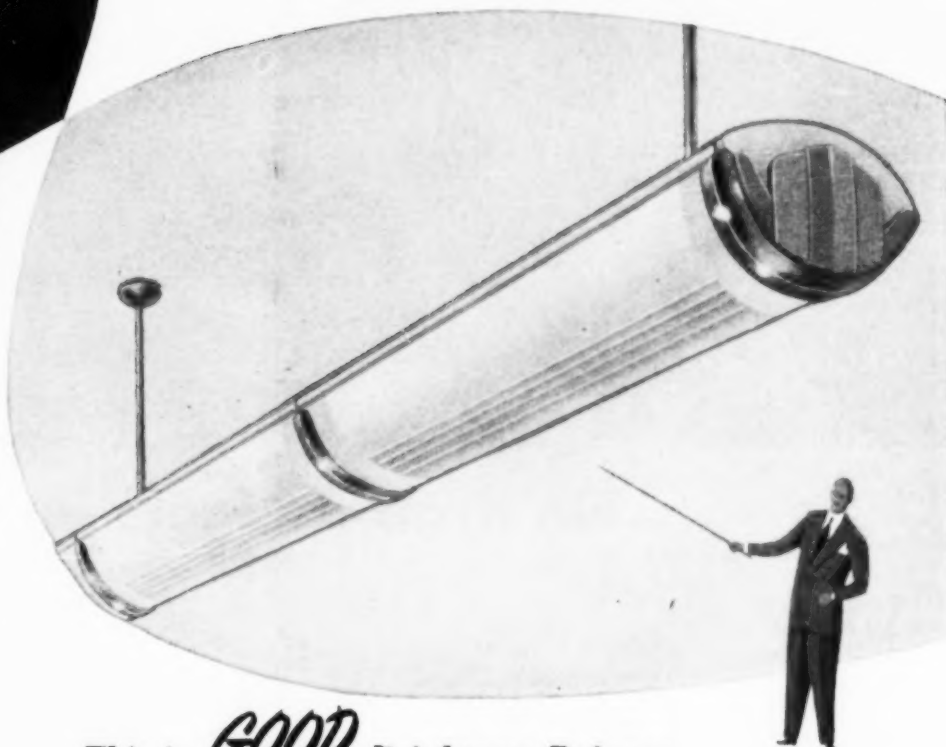
*which is the key to the*  
**Co-ordinated Classroom**



This is ***BAD***

**Brightness Balance**

When the luminaire is too bright you get harsh contrasts in brightness between the luminaire and its background. To control these contrasts and achieve adequate brightness balance, the selection of proper lighting equipment is vital.



This is ***GOOD*** **Brightness Balance**

The Wakefield STAR is a luminous indirect fluorescent luminaire that provides a "smooth" distribution of light on horizontal, vertical and other plane surfaces—well inside contrast tolerances of the eyes—but with adequate modeling shadows for three-dimensional seeing. It has a translucent plastic reflector which distributes the light in such a way that the ceiling and the luminaire have approximately the same brightness. Thus the brightness ratio of luminaire to ceiling is virtually unity. This is the special characteristic of the STAR which has resulted in its being consistently installed in Co-ordinated Classrooms as developed by Darell B. Harmon.

For detailed information on the STAR and for competent assistance in planning Co-ordinated Classrooms, write to  
**THE F. W. WAKEFIELD  
BRASS COMPANY**  
Vermilion, Ohio

# Wakefield



## Over-ALL Lighting

**BASIC FOR COORDINATED CLASSROOMS**



*Lupton Architectural Projected Window installation in Easytown High School, Baton Rouge, La. Architect: A. Hays Town. Contractor: Caldwell & McCann.*

Students and teachers . . . superintendent and school board . . . architect and builder . . .

They're all in favor of bright, cheerful classrooms, controlled draftless ventilation, relaxing distant vision. They get these advantages of modern window design in Lupton Architectural Projected Windows—first choice for America's finest schools.

Lupton Metal Windows are precision built at every point. Sturdy metal frames will not warp, swell or shrink—always easy to operate. Beautifully designed locking hardware allows fingertip operation. Economical installation. Minimum maintenance. Lupton Metal Windows are made in steel and aluminum in sizes and designs particularly suitable for school building requirements. Write for our General Catalog or see it in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.  
700 East Godfrey Avenue, Philadelphia 24, Penna.

*Member of the Metal Window Institute and  
Aluminum Window Manufacturers Association*

# LUPTON

## METAL WINDOWS

Some of the Many Installations of

# POWERS

IN CONTEMPORARY

## *Pneumatic* Temperature Control

ELEMENTARY SCHOOLS



Above: Greenbriar School, Northbrook, Ill.  
Architects-Engineers: Perkins & Will, Chicago—  
Mechanical Engineer: E. R. Gritschke



Right: Elm Hill School, Springfield, Vt.  
Architect: Richard D. Butterfield, Perkinsville, Vt.—  
Engineer: Thomas Task, Hanover, N. H.—Heating  
Contractor: Dezero & Randall, Rutland, Vt.



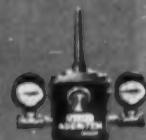
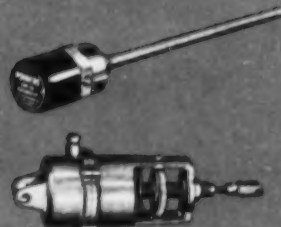
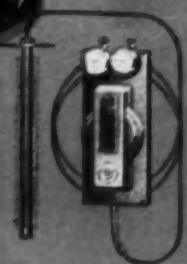
Left: Elementary School and Shop Bldg., Brewer, Me.  
Architect & Engineer: Alonzo J. Harriman, Auburn, Me.  
—Heating Contractor: C. H. Babb & Co., Bangor, Me.



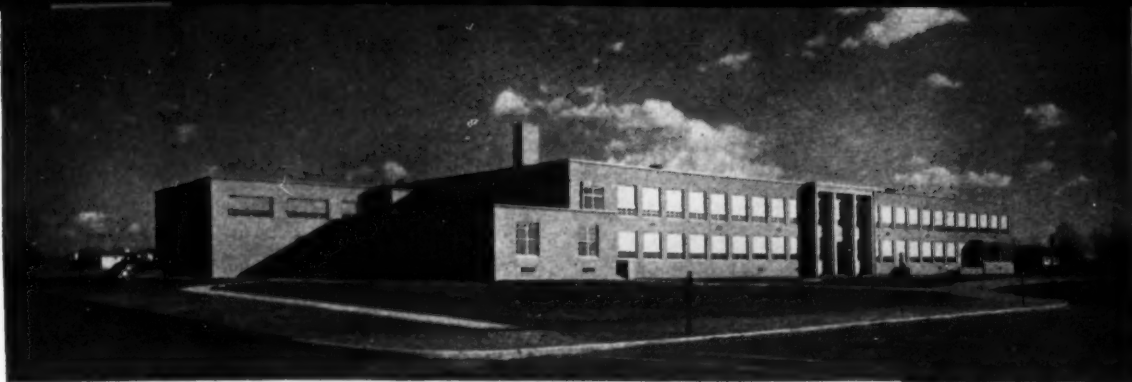
Below: North Norwood School, Norwood, Ohio.  
Architect: Charles F. Cellarius, Cincinnati, Ohio—Engi-  
neers: Fosdick & Hilmer, Cincinnati, Ohio—Heating  
Contractor: B. & J. Jacobs Co.



MODERN CONTROLS FOR ALL TYPES  
OF HEATING AND AIR CONDITIONING



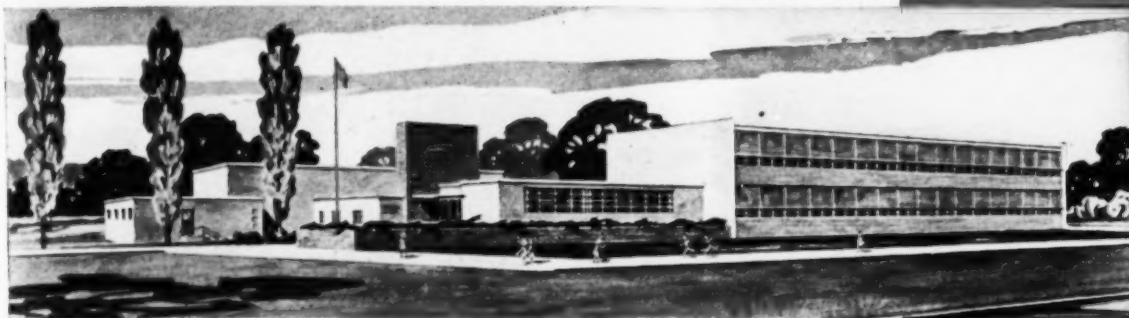




Above: Carle Place Elementary School, North Hempstead, L. I., N. Y.

Architect: A. H. Knappe  
Engineer: A. E. Fentzloff  
New York City

**POWERS**



Above: Porter School, Prairie School Addition, Johnson County, Kans.

Architects & Engineers:  
Thomas W. Williamson,  
Victor H. Loebbeck & As-  
sociates, Topeka, Kansas—  
Heating Contractor: Natkin  
& Co., Kansas City, Mo.

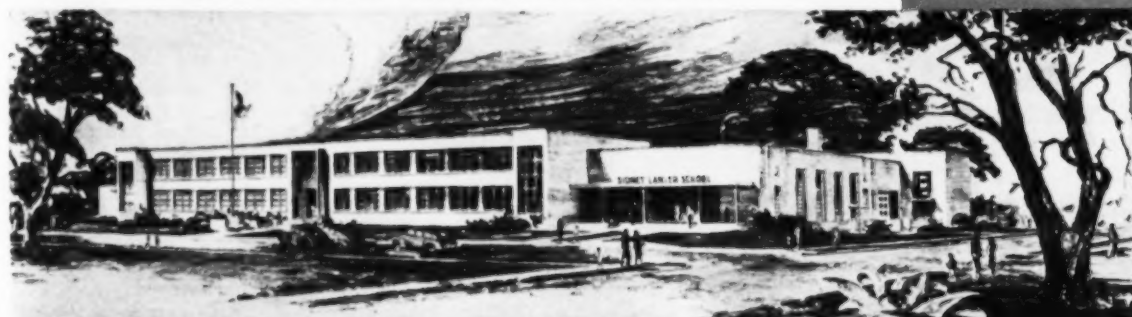
**POWERS**



Above: Conway School, Ladue, St. Louis County, Mo.

Architects: William B. Ittner,  
Inc., St. Louis, Mo.—Heat-  
ing Contractor: Gildehaus  
Plumbing & Heating Co.  
St. Louis, Mo.

**POWERS**



Above: Sidney Lanier School, Dallas, Texas.

Architects: John B. Danna &  
Everett V. Welch & Mark  
Lemmon, Dallas, Tex.—Con-  
sulting Engineer: Zumwalt  
& Vinther, Dallas, Tex.—  
Heating Contractor: Kieffer  
Plumbing and Heating Co.

**POWERS**



Left: Jefferson  
Elementary School  
Wyandotte, Mich.

Architects & Engineers:  
Smith, Hinchman & Grylls,  
Inc., Detroit, Mich.—Heat-  
ing Contractor: Peter Eddy  
Co., Detroit, Mich.

**POWERS**

## THE POWERS REGULATOR CO.

Established 1891 • OFFICES IN OVER 50 CITIES • See Your Phone Book

CHICAGO 14, ILL., 2720 Greenview Avenue • NEW YORK 17, N. Y., 231 E. 46th Street  
LOS ANGELES 5, CAL., 1808 West 8th Street • TORONTO, ONT., 195 Spadina Avenue  
MEXICO, D. F., Edificio "La Nacional" 601

For Greatest Comfort  
and Lowest Cost Maintenance  
Specify **POWERS** Control

Contact nearest office for further information  
There's no obligation

*Year after year after year*



Floor of  $3\frac{3}{32}$  x  $1\frac{1}{2}$ -inch Second Grade Northern Hard Maple in auditorium-gymnasium, Squantum School, Quincy, Mass. Architects: Coletti Bros., Boston.

*in school after school after school*

## NORTHERN HARD MAPLE FLOORS

● Each new maple school floor makes this fact plainer: MFMA Northern Hard Maple is "the finest school floor that grows." Consider the reasons, as you plan your new school facilities:

Northern Hard Maple's brightness aids illumination, adds cheerfulness. Its resilience and non-splintering toughness fight heavy impact and the scuffs and scars of millions of heedless footfalls. Its precise MFMA dimensioning and slight expansion-contraction factor minimize dirt-collecting crevices, for easy, effective sweeping. Its proved wear-resistance cuts upkeep costs—"there's always a new floor underneath" for easy refinishing.

You get extra economies, too, *at no sacrifice* of beauty or wear, by use of MFMA Second, Second-and-Better or, in some areas, Third Grade. The popular, narrower ( $1\frac{1}{2}$ -inch) face width, pictured above, is again widely available. A special folder, discussing the advantages of this width, is free. Write—

### *See Sweet's*

Full dimensional and specification data for laying and finishing Northern Hard Maple floors in strips and patterned designs, with the grading rules, in Sweet's, Architectural 13g-7; Engineering 4j-21.

**MAPLE FLOORING  
MANUFACTURERS ASSOCIATION**  
Suite 508 — Pure Oil Bldg.  
35 E. Wacker Drive, Chicago 1, Ill.



FLOOR WITH

***NORTHERN***

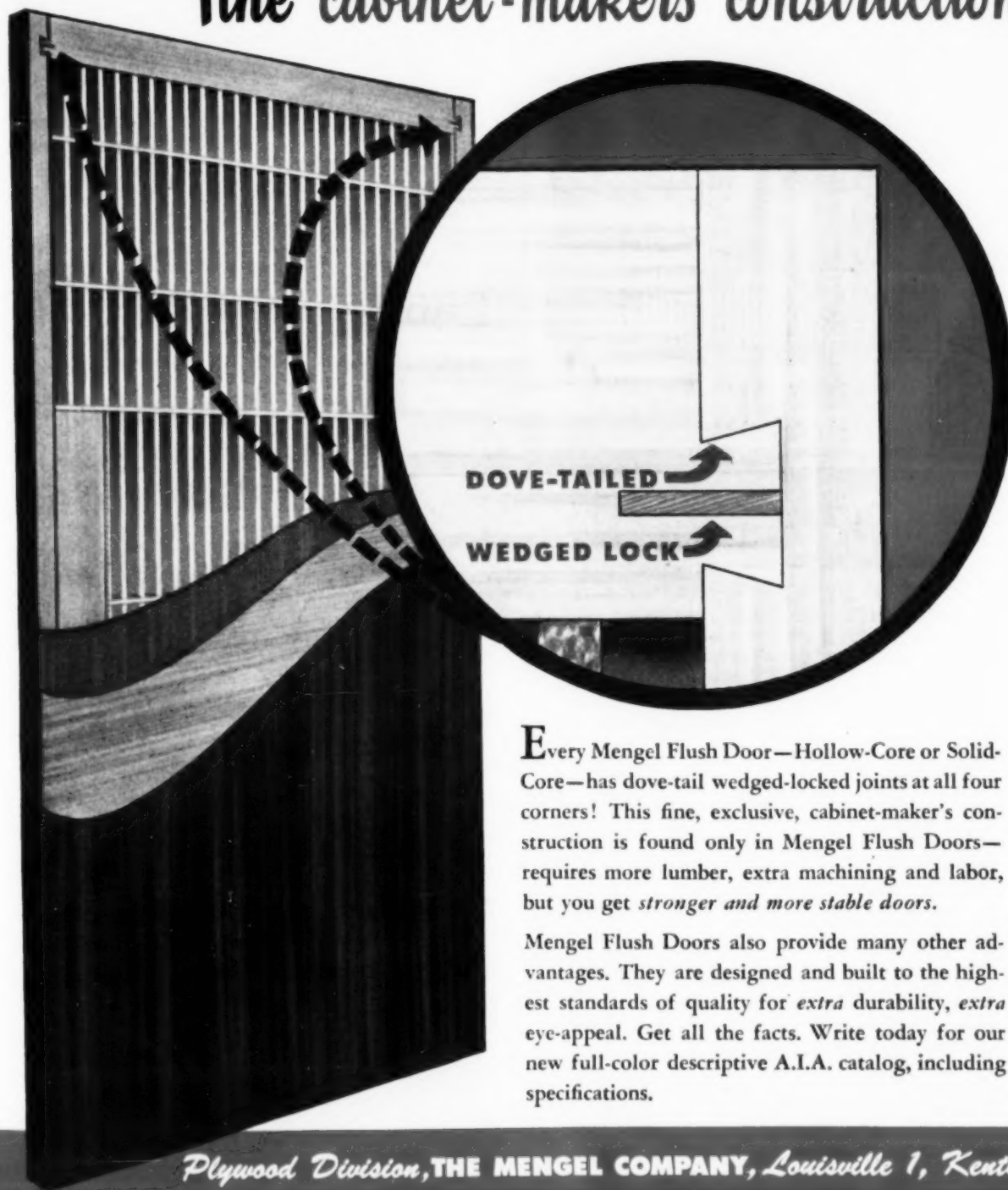
**HARD MAPLE**  
*BEECH AND BIRCH*



# MENGEL

## Flush DOORS

give you the advantages of this  
fine cabinet-maker's construction!



Every Mengel Flush Door—Hollow-Core or Solid-Core—has dove-tail wedged-locked joints at all four corners! This fine, exclusive, cabinet-maker's construction is found only in Mengel Flush Doors—requires more lumber, extra machining and labor, but you get *stronger and more stable doors*.

Mengel Flush Doors also provide many other advantages. They are designed and built to the highest standards of quality for *extra* durability, *extra* eye-appeal. Get all the facts. Write today for our new full-color descriptive A.I.A. catalog, including specifications.

*Plywood Division, THE MENGEL COMPANY, Louisville 1, Kentucky*



**DON'T 'Throw Away'**  
**THIS VALUABLE**  
**GYMNASIUM**  
**AREA**

**NOW YOU CAN GET**  
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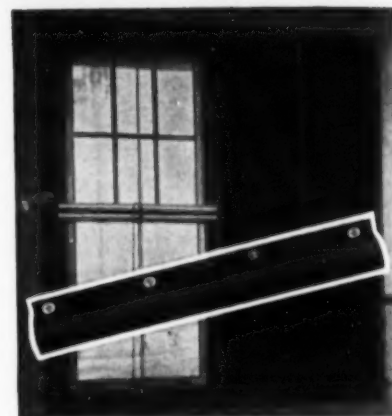
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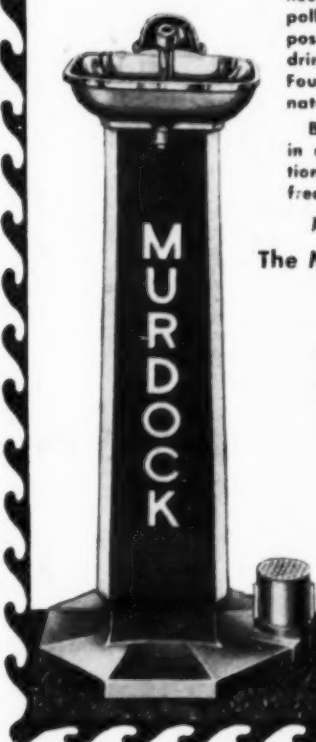
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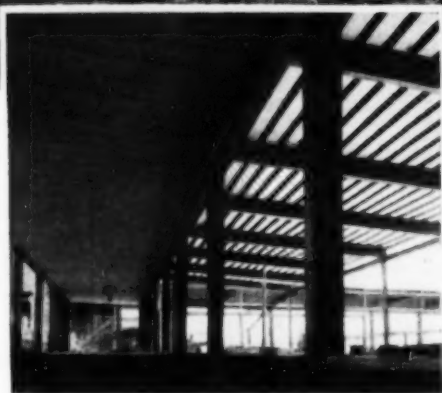
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# THE AMERICAN School Board Journal

*A Periodical of School Administration*

VOL. 122

NO. 1

January  
1951



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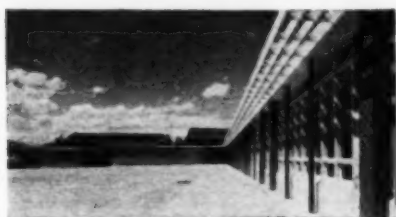
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The contents of this issue are listed in the "Education Index."

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TO FINISH"

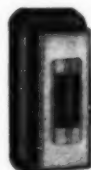
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# THE AMERICAN School Board Journal

Volume 122, No. 1

JANUARY, 1951

Subscription, \$3.00 the Year

Basic Considerations When the Board is —

## Going to Select an Architect

*Otto Haisley\**

In the choice of an architect for a school building project of any consequence boards of education have a responsibility almost equal to that of any other assignment given to them.

The typical city school building as planned and built today has permanence that easily suggests a century or more of use.

School planners, and these include administrators and other school personnel as well as school architects, cannot, like some professions, bury their mistakes. Their mistakes must be lived with. Succeeding generations of teachers, children, and parents become increasingly aware of them and regret that a board of education did not choose a more resourceful architect or that a school administration was not more far-seeing or more discriminating in its choices or that the engineers of heating, plumbing, or other school equipment did not perform up to the best standards of their time.

It doesn't necessarily cost any more to build a good school building than a bad one. Fees for a good architect are no higher than those of a poor architect. But how can a board of education be sure that it is choosing a good architect? What criteria can be set up to guide a board of education in such a selection?

How shall a board proceed which is filled with only a desire to serve its clientele in the best possible way, a board that has no favorites to play, no axes to grind, and no other thought than getting the most efficient educational plant possible for the money invested?

One board of education faced with building a large high school, had some 25 or 30 applications from architects who were aggressively interested in the job. This group included many very able and experienced men. How was the board to act intelligently in making a choice?

Strangely enough the professional literature which might give direction to a board

of education faced with this problem seemed quite meager. Under such conditions the board directed the administration to draw up a set of criteria that would give the members a sense of direction and some help in proceeding to designate an architect for this important project.

After much thought and study the administration did draw up and submit to the board for consideration a set of criteria which listed the competencies and the attributes which should be possessed by the individual or firm chosen to serve on this job. The board then went through the material very carefully. Their suggestions for alterations in the report were incorporated in the document. From this came the following:

### Criteria to Be Used in the Selection of an Architect

1. School building planning and construction is a highly specialized branch of architecture. In the opinion of this board of education a thorough knowledge of the aims, purposes, organization, and operating plans of a public school is a prerequisite of good architectural services in school building planning.

It is essential that an architect for the new high school be familiar with educational aims, practices, and procedures at the high school level.

2. Research and study of school buildings and school building materials and their uses now available for school building construction, have been very extensive in recent years. These researches cover a wide range of subjects and materials having to do with mechanics, design, and building details.

Not the least important area of these studies are the effects of mechanics, design, and the use of various building materials on the growth and the mental and physical well-being of the individuals who are to use the school plant.

This points to the conclusion that, if an architect is to be given serious considera-

tion by this board of education, he must have had a rich background of public school planning and architectural experience. The very nature of the demands made upon him requires that he be a recognized specialist in school plant planning and school architecture.

3. The high school site will consist of many acres of ground. The utilization of these acres in the best possible way to facilitate a community school program, both at present and as one sees it developing in the future, is an essential part of the school plant planning.

The architect chosen needs to present evidence of competencies in the area of site planning and utilization, as well as in the area of educational planning and building design.

4. It is conceded that a school plant should be highly functional. Likewise, it should appeal to the aesthetic sense. It should present a pleasing appearance and show good taste. The architect chosen should give ample evidence of a well-developed sense of the aesthetic and the beautiful.

5. Such items as heating, lighting, and plumbing which affect the creature comforts of mankind assume tremendous importance in school building construction. There are many choices in these areas. These may be excellent, good, or bad.

Since the planning of those portions of this building calling for engineering service is of great importance, this board of education is of necessity interested in the individuals to serve as engineers on the job.

The engineering services may be performed by members of the architectural firm employed, or these services may be rendered by someone outside the firm. However, the board expects that these services will be integrated by the architect employed.

The board would want to know, therefore, what the proposals are for handling the engineering services on the project. The board should have adequate informa-

\*Superintendent of Schools, Ann Arbor, Mich.



tion on the individuals upon whom this responsibility will fall, whether they are members of the firm or are employed especially.

6. In terms of total needs the dollars available will be limited. Economies will, therefore, of necessity have to be practiced. The board of education will want evidence of the architect's ability to economize without reducing the efficiency and ultimate economy of the plant or weakening the building structure.

7. There exists today no greater essential in business dealings than character. The architect chosen must have a high ethical sense and an unsullied record of honesty, fairness, and frankness in dealing with his fellow man.

8. The architect must work with many people. A school plant is the product of the thinking and planning of many individuals. These will include laymen, the professional staff representing the schools, the board of education, and the architect's staff.

The architect is not a servant; neither is he the master. A co-operative attitude and a respect for the personalities and the thinking of others are as necessary in the architect as in people in other walks of life. The architect is chosen because he is a specialist; he has become a specialist because he has listened to and learned from many people along the way.

The architect chosen must show evidence of being able to work co-operatively and graciously with the official representatives of the school district.

9. There is a large and important business side to school building planning and construction. That architect enhances his value who has an understanding of the legal aspects of building construction, who employs good business and accounting practices, who as an individual and in his official capacity has a deserved reputation for prompt and decisive action in his business and professional relationships with the owners, with contractors and subcontractors.

10. The board recognizes that the architect as a part of his professional service has an important function to perform in co-ordinating the services of contractors.

Effective supervision is essential in a big building operation. A know-how of getting a job done and expediting work is an absolutely necessary competency of an architect.

The board is interested in anything which might reveal the architect's competencies in this field.

11. The board is interested in the fees to be charged by the architect. It believes that these should be in harmony with the schedule of fees and charges approved by the American Institute of Architects.

12. The board holds that an architect should take on only such jobs as his organization is capable of carrying out efficiently.

13. The board believes that good school administration can best be secured when authority is delegated to one individual. Under such circumstances responsibility is fixed and definitely placed.

It believes that this principle of delegated authority is just as important and necessary in carrying on a school building project as in the field of general school administration.

The board is interested to know how the architect's firm is organized and how it operates in the practical matters that have to be decided in connection with the building planning and construction.

14. The architect must know how to judge contractors and be familiar with techniques and methods of investigating their work.

The board believes the architect should be in a position to advise the board of education in the work of selecting contractors.

15. Man's progress has come because some individuals have had more vision than others, have seen ways of making improvements, have been willing to venture from beaten paths, have been willing to forsake old standards, have been more able to push aside the curtains which obscure our visions

of the future. As a result these individuals have a keener sense of what the future holds in store for us and have in effect pushed to new frontiers.

The board of education is necessarily interested in seeing evidences of imagination and creativity which an architect possesses.

16. The architect should demonstrate ability to translate into practical, functional, workable plans and structure the educational objectives supplied to him by his client.

But how should these criteria be used? They were sent to each architect interested in the job with the statement that the board would be pleased to have any evidence the architect cared to submit having a bearing on the issues raised in the criteria.

The architects were further informed that, on the basis of the first returns, the board would reduce the number of firms who would be given serious consideration to five. Before the final decision would be made, the board proposed to visit enough jobs of the architects to have a thorough-going idea of the work each architect has turned out.

The selection of a school architect is not wholly unlike the selection of a superintendent of schools.

## Legal Costs in Issuing Bonds

Glenn Kuns Kelly\*

Numerous school boards of Michigan are in the midst of planning for or issuing school building bonds. It has been nearly two decades since the school boards of the state have had to deal with this problem. Among the questions connected with bond issues which every board must face are those of the legal services required, what they will cost, and what will be included in the legal services.

To find the answers to these problems a questionnaire was sent to the superintendents of schools in 48 school districts in which bonds had been recently voted. Thirty-five replies were received. Superintendents were asked to state how their attorney's fees were arrived at and what services were included. Twenty-two superintendents gave the actual amount of attorney's fees. The services included in the fees quoted were (1) the bond election, (2) the preparation of data for the Municipal Finance Commission, (3) the advertising and sale of the bonds. The legal opinion and the printing of bonds were not included in the fees of attorneys employed for the first three mentioned services.

In the 22 school districts from which data were obtained on the amount of attorneys fees on a flat fee<sup>1</sup> basis the total bond issues amounted to \$13,715,000. The attorney's fees for bond elections, preparation of data for the Municipal Finance Commission and advertising

for sale of bonds total \$37,221. Twenty-eight school boards employed an attorney on a flat fee basis; four on a percentage basis; one employed a bond house on a percentage basis together, with an attorney on a flat fee basis; one school board turned the entire matter over to a bonding house on a percentage basis. A tabulation of the data follows:

### BASIS OF CHARGES FOR LEGAL SERVICES IN CONNECTION WITH SCHOOL BOND ISSUES IN 35 MICHIGAN SCHOOL DISTRICTS

Attorney's fees on a percentage basis:

| Amount of Issue | Percentage | No. |
|-----------------|------------|-----|
| \$925,000       | 5          | 1   |
| 225,000         | 1          | 1   |
| 285,000         | 1/5        | 1   |
| 165,000         | Not stated | 1   |

Attorney's fees on a flat fee basis:

| Amount of Issue         | Fee Charged | No. |
|-------------------------|-------------|-----|
| \$110,000               | \$200- 299  | 1   |
| 150,000-175,000         | 300- 399    | 2   |
| 150,000-160,000         | 400- 499    | 2   |
| 285,000-350,000-425,000 | 600- 699    | 3   |
| 300,000                 | 800- 899    | 1   |
| 650,000                 | 900- 999    | 1   |
| 125,000-375,000-450,000 | 1000-1099   | 3   |
| 400,000                 | 1100-1199   | 1   |
| 900,000-1,100,000       | 1500-1599   | 2   |
| 1,350,000               | 1600-1699   | 1   |
| 1,650,000               | 1900-1999   | 1   |
| 260,000                 | 2000-2099   | 1   |
| 1,240,000               | 3500-3599   | 1   |
| 2,500,000               | 4000-4099   | 1   |
| Fees not stated         |             | 7   |
| Total                   |             | 29  |

(Concluded on page 98)

\*Superintendent of Schools, Negaunee, Mich.

<sup>1</sup>Flat fee is used to indicate attorney's fee based on time and not the amount of money involved in the bond issue.

# An Idea-l-ogical School Building

## Program Procedure *H. W. Schmidt\**

Though a good many articles have been written on the subject of schoolhouse planning, both in this magazine and other contemporary literature, the writer feels that an actual experience along this line may be of interest to many readers. What is here written may not be entirely new to them, they having probably undergone a similar experience. At the same time this article may contain a few salient points which may prove of help.

The writer will now drop the "third" person approach and go into the subject from the personal angle and give, as nearly as possible, the actual process of planning, using the conversational method based upon his copious notes and his memory. The names and locality used herein are, of course, fictitious though they exist under different appellations.

Some time ago I received a letter from Superintendent Minor, reinforced by another from Carling, the chairman of the school board of the city of Nestor, to come to their community to help and advise in planning an elementary high school building. I was told that some preliminary work had already been done. Data had been compiled on population trends, the preparation of spot maps, the location of some sites available, the school census, expected future growth of the area involved, and the number of pupils to be accommodated.

### The Problem of Funds

So I met with Mr. Minor and others of his staff, as well as some board members, and familiarized myself with their viewpoints and the over-all problem.

"One factor in a situation such as yours is the financial condition of Nestor. How about available funds, which seems so important in many cases?" I asked Mr. Minor.

"That is one thing you need not worry about," he replied. "We have a very large fund on hand, garnered during past years, and can get what we need without much trouble, as 'Barkis is willing.'"

"You are fortunate; in too many cases good planning is hampered by lack of money and consequently a really good plan may have to be cut and changed, too often to the extent of getting a mediocre plan or a building cut down to the bare necessities. So we can go ahead in an *Idea-l-ogical* basis, coining, if not the split word, the underlying thought of both 'ideas' expressed and in 'ideal' of planning."

This seemed to fit the case here and was

accepted as at least a working basis by the group. And by the way, the above seemed to me to be a fitting title for this article.

### A Site Is Selected

"I believe the first thing is to select a site which should fulfill a number of conditions such as (a) reasonably centralized to the area to be served, (b) readily accessible through good streets, (c) parking area for cars, (d) a good environment, (e) good drainage, and, important, (f) ample size. I am taking for granted that service systems are available."

At this point Mr. Minor asked what amount of spaces should be available aside from that occupied by the building itself.

"A play area for the elementary school, around four acres; a similar one for the secondary school of six to eight acres; and in addition a large area for inter- and intra-mural sports, such as football, baseball, track, tennis, etc., as well as space for a school garden. This will call for 20 to 25 acres additional. So if we select a real school site we should have at least 35 acres or more. Personally I should like to have upward of this amount. We must remember that all of the available space also has to accommodate the building. In the very nature of the situation, the area will be cut up to some extent, so the *free* area is curtailed. Even with a large over-all space, good planning and layout are called for."

"Though we have five sites in mind," said Mr. Carling, "I'll bet there are only two which come within shooting distance of your Ideal. How about it, Mr. Minor?"

"After hearing Mr. Schmidt, I'll say only one will qualify," the superintendent replied, "and that is the Third Avenue site, which is about 40 acres in extent."

At this point we adjourned to visit the various areas and it was agreed that the Third Avenue one was very close to the Ideal we had in mind. It was rectangular in shape; a portion was slightly lower so as to permit good bleacher space overlooking a proposed athletic field. The spot map showed three fourths of the elementary pupils lived within seven eighths of a mile and the high school students virtually all within two miles. In general all of the conditions previously stated and discussed were met. So we had a very fine site, an important matter. Best of all, a very reasonable price was involved as the site was part of an estate whose heirs were anxious to settle it. And last, though not least, the building could be well oriented to give east and west lighting, minimizing a large north

exposure, important in this section of the country, the middle west. The soil and other conditions would permit adequate landscaping.

### Educational Planning Comes Next

After returning to the school offices, one member of the school board remarked, "Thank goodness we have surmounted, what in my opinion, is the most important hurdle; we expected a headache and not a real ideal site. Too many folks want to sell and have the school located on their doorsteps. You know how that is, I bet. I am sure the next step, Mr. Schmidt, will be the selection of an architect, and do we have 'the flies about the sugar!'"

"This will be another and later step; but what are you going to tell an architect at this point? Go ahead and design a school? What kind of a school, what is it to contain, what educational program is it to serve and house? Are you going to provide facilities for adult education and recreation and community use of the building? Does your educational program call for practical and vocational experiences? But I could go on for some time, but you can get an inkling what is in the offing and what guide lines you should establish for your architect, so that . . ."

"Mr. Schmidt, may I interrupt here to say that some of these matters have been discussed in some of our meetings and it was suggested that I outline this part of the job myself but . . . I have had some meetings with our present teaching staff, both from our other elementary and high schools. We have agreed on a few things, especially on an *activity* program for our grade school, an extended recreational program, and greater use of the school plant than has been customary here. We also feel that an art and music program is worth while."

"I am glad you had the help of your teachers, and gentlemen, you may now see what has to be settled in order to get a more or less ideal setup before you can employ an architect, who, of course, will or should be able to advise along some of these lines and certainly on all technical matters."

"How far are you committed to the implied program and general educational features mentioned? Virtually all of them? Good! If the layout is well made, first-class materials used, and the various spaces made *highly* functional (I don't like to use that much-abused term because one can hardly erect a structure which is not functional in some degree, but the adjective

\*School Building Consultant, Madison, Wis.



I used is of importance), why then you may get a more or less ideal school building.

### One-Story Plan Favored

"How about the 'El Rancho' type of building vs. the multistory structure? How about basement or subgrade spaces? I can see nothing to commend such areas which are objectionable from many angles including a psychological one, obscure to some degree, but real nevertheless. What of the 'compact' plan, the L or the H or 'Saw Tooth' layout? Your city will grow so that flexibility and provisions for expansion must be borne in mind as well." I commented.

"Can you give us your viewpoint or relative merit of the one-story building contrasted with the multistory type, Mr. Schmidt? It seems to me that there are a lot of arguments for the latter—we are not living in California or southern Texas and we have a lot of severe cold weather to contend with up here," were Mr. Minor's remarks at this point which were vociferously seconded by other members of the conference.

"You have brought up a subject which not only merits discussion but is in line with modern ideas and trends in school construction, and you no doubt have all seen them discussed in contemporary educational literature. So let us briefly see how these two notions line up.

"There can be no question that the so-called block or concentrated type of multistory building makes for economy of foundation and roof construction and also means less wall and roof exposure which in turn make for lessened heat losses and consequent fuel economy. In addition, this plan calls for smaller sites and may, nay must be, justified in congested population areas where sites of any magnitude are out of the question.

"On the other side of the picture we have quite a few counterarguments such as the use of lighter materials all along the line and simpler as well as cheaper construction. There are no stairways, and the longer corridors and multiple exits make for easier clearing of the building in case of fire and also promote better pupil circulation.

### Lighting and Heating Problems

"Then we are in a better position to plan for concentration of certain educational spaces and thus isolate cooking rooms and their odors as well as those of chemical laboratories; shops and their objectionable noises, as well as music rooms. All may be planned in separate wings. Then, it is also possible to use bilateral natural lighting of the clerestory type and get ample daylighting. Again, certain rooms such as cafeterias, auditoriums, gymnasiums, etc., may be so located as to be readily accessible from any part of the building and on the first or ground floor level, an important feature for crowded areas. And let us not forget

that such buildings are safer than multistoried ones due to absence of stairways and ease of egress. Ease of expansion is another good feature as well as flexibility."

"You have given us a rather impressive series of reasons why the single-story building has so many advantages, Mr. Schmidt, but you did not elaborate on the cost of heating and ventilation which you mentioned as a rather derogatory factor," said the science teacher, Mr. O. "How about that?"

"It is true that heat losses are greater in one case than in the other, but these can be lessened by proper construction and insulation in the simpler structure, though more radiation may be required. But the 'rigidity' of the higher building imposes increased installation costs due to structural restrictions which is not the case in the 'low' type. Ventilation may be simplified as well. The problem is not serious when other features are considered."

Mr. Carling seemed satisfied that their new building might well be one story in height. "But," he said, "we are agreed that the architect is not to give us a 'California' building with its patio, 'outside' classrooms and those outside rafters or whatever you call them. A reasonably modern flair is acceptable, but we don't want any fancy stuff." That seemed to meet with the approval of most, and the dictum was generally accepted.

### Size and Number of Rooms?

"Will you please give us your idea, Mr. Schmidt, on the size of the building, or rather the number and size of the rooms required to house our educational program with which you are now familiar?" said Mr. Minor.

"I'll be glad to give you the number of rooms you will probably need on the basis of accommodating 300 grade pupils, kindergarten to grade eight, and about 350 to 400 high school students with . . ."

"Just a moment, Mr. Schmidt," interrupted the superintendent, "we have decided to keep the median number per room down to 30, and all of our teachers feel this is an adequate class size—for the grades of course. For our high school we feel this number may be around 24 or 25. We can raise the median later if the school grows. How about it?"

"I'll agree with you; in fact I was going to suggest these figures myself. In the grades, the number of rooms is easily determined; simply divide the maximum enrollment, 300 here, by 30, the class size, and we get 10 rooms, including a kindergarten.

"For the high school enrollment the problem is not quite so simple. The number of periods per day, the daily period use of classrooms, the median class size, and the student program, all are variables and we have to make some assumptions, based upon what I know of your high school program and subject offerings. Throwing these into the hopper and turning the crank, I

grind out' 14 classrooms, laboratories, commercial and vocational rooms and shops, excluding those used for art and music, recreation, study, etc. The above number includes multiple rooms for the vocational subjects and should suffice for a larger number of students if and when the school grows, which seems a reasonable assumption.

"The size? On the activity program basis the floor area per elementary school-room will run from 725 to 800 square feet, depending upon the activity type and space assigned to it. The kindergarten over-all space will be around 950 square feet.

"For the high school recitation rooms the floor area will be about 625 square feet, the laboratories about 760, while the vocational rooms, six in number, will run about 4500 square feet. To these amounts must be added the space occupied by the library and study hall, auditorium, gymnasium, or a combination of the latter two, an administrative suite, a nurse's and first aid room.

### Good Over-all Planning

"A very well-planned building will have about 60-65 per cent of its over-all cubage in usable educational space. Without going into a careful analysis of all the features involved, especially as we are discussing a more or less 'idea-l-ogical' situation, I am really not in a position to give you any close estimate of the cost, which, as I stated previously, will run into quite a high figure. Specifications can 'make or break' a plan and a good deal depends upon the architect you employ for . . ."

"We have already made contacts with a good architect and may hire him very soon," Mr. Carling interjected, "He is of the firm of Wand N."

"I have never heard that this firm has planned a school," I said, "at least not in this part of the country. Without bias, I should not employ any but a school architect. Designing such a structure is a specialty and a man must be familiar both with the needs of a school and its construction; otherwise you may find yourself paying for the 'education' of an architect along this line. Even if you do not fear the latter and cost does not worry you, I shall still have to repeat: Employ a competent school architect; it will pay you dividends in the end. As a rough estimate you will spend about a half-million dollars on the construction, or even more if you go the limit, or if prices keep going up. Add to that the cost of the site and its improvement and that of school equipment—well, that's a lot of 'dough' as the saying goes, and you can see that your working personnel should be the best. So—"

### Picking the Architect

"I see your point," one member of the board said, "and I'm sure, Carling, that we have not committed ourselves too much."

(Concluded on page 98)



# "Your School Building Should LOOK Like a School"

*Gabrielle Sibley and Samuel W. Young*

Out of the foggy atmosphere of controversy over the relative merits of the modern and the traditional architectural styles—out of the general clamor for change, there has emerged a new era in school building design.

With the ever increasing number of so-called "factory type" school structures, thoughtful people are asking, "Is this trend inevitable? Do modern building techniques make this type of design inescapable?"

This discussion is addressed to that group to which the current trend is disturbing, to the many who possess a keen perception of the artistic generally, and to those who are not convinced that we are developing a truly fine contemporary school architecture.

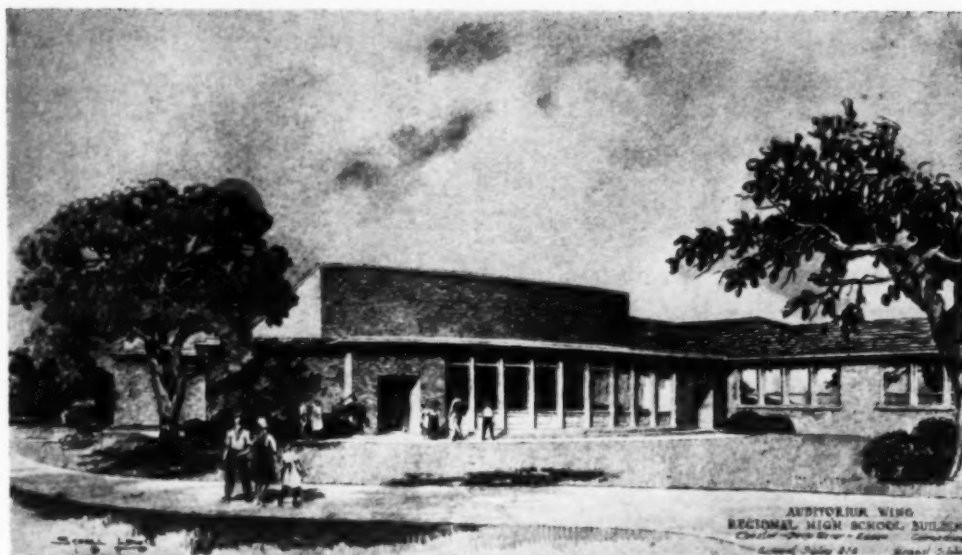
We would not return to the ornate buildings of the past. Many of these were conceived in rigid form, without due regard to orientation or to the best relationship between the various elements of the school plant. In any event, we find ourselves at the moment believing that the school architects of today must have the determination, the vision, and the courage to work out a realistic approach to the elimination of the old standardization in school building design and to translating the diverse elements of the building into an organic whole.

Many of those who espouse the modern have adopted the word "functional" with misleading effect. Webster defines "functional" as meaning "designed or adapted to perform some operation or duty." Any school is functional, therefore, which *efficiently* houses the educational program of the community. Too often the term functional has been applied to the "style" of architecture rather than to the organization of plan and structure. This has resulted in confused thinking and has led to many false conclusions.

In the first place, there is no "functional style." In truth, the early classical architecture was "functional," and its style or character was the expression of that function. Obviously, the function of a railroad station differs from that of a research laboratory or a hospital, and it follows logically that they will be dissimilar in character. If a schoolhouse has the appearance of an industrial plant or a building used for some other purpose, one must seriously question the appropriateness of the structure even though the designer claims to have approached the project from a functional standpoint. If the design of a school or any other building is completely appropriate, the passerby will not ask "What is it supposed to be?"

Nor is it sufficient to create an appropriate form, as this is just the beginning. The building must have a sense of unity. This is a rare quality, but it is the very essence of architecture. If a structure is simply a collection of its various elements, it is just another building; but when its diverse elements are truly integrated into an organic whole, it achieves that distinctive quality we call architecture.

Is this not symbolic of the whole orderly process of creation?



Auditorium Wing, Regional High School, District No. 4, Chester, Deep River and Essex, Conn. — Ernest Sibley, Architect, West Hartford, Conn.

In our culture a high school building embodies in miniature all the varied activities of the community, including its social, cultural, recreational, business, and industrial life. In the community these diverse activities are carried on within separate buildings, each designed for its particular purpose.

In planning and designing a high school building to properly house all the required activities, the architect is faced with a tremendous functional and aesthetic problem. Only by means of an aesthetic organization of the space required for the various activities, does the architect bring order out of chaos. Unless he is fully aware of the creative processes he will lack the powers to conceive and develop that living quality in school architecture which makes us love our schools—not just take pride in them.

## The Planning Process

In developing Regional High School Number Four, which will serve the Towns of Chester, Deep River, and Essex, Conn., we naturally approached the plan problem from the site standpoint. The modern educational program extends beyond the walls of the building and embraces the out-of-doors in order to broaden and vitalize traditional school activities. Through corrective exercises, group games, and athletic sports in the open air, the school reaches out to promote the physical and social well-being of the pupil and the community.

Not only is the building shaped and located so as to contribute logically to the comprehensive development of the site, but the elements within correlate naturally to form an excellent plan for the educational needs.

It becomes immediately apparent that the major play areas are laid out around the centrally located gymnasium, with a large parking area convenient to all.

## Community Use

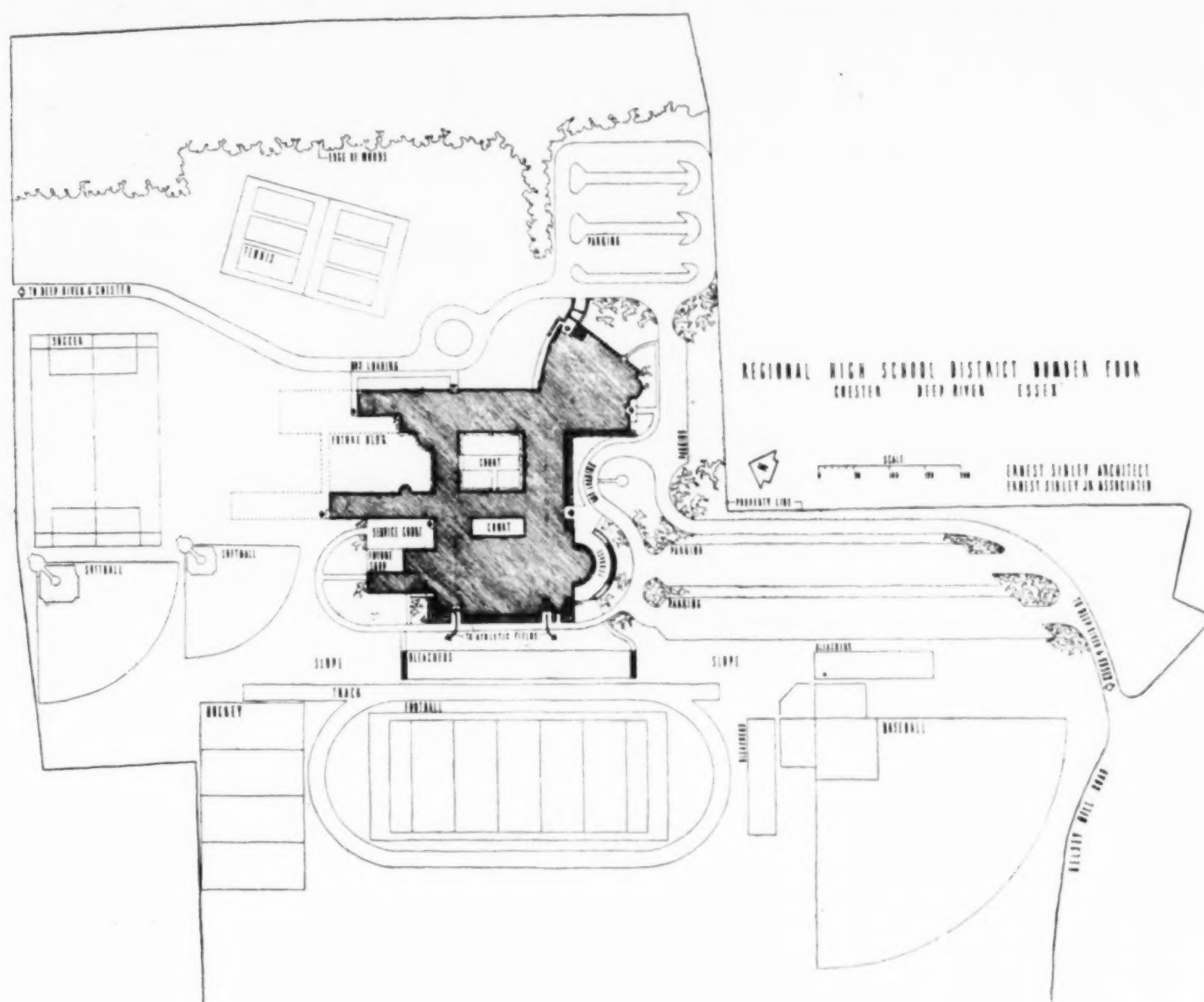
The gymnasium, cafeteria, health unit, administration area, art department, and auditorium are all connected in such a manner as to be accessible to the public for community purposes, without encroaching upon the remainder of the building. By installing gates at the ends of the longitudinal corridors, the academic area of the school may be cut off when desired.

The auditorium is planned so that one end of the lobby connects directly with the school, while the entrance at the opposite end is convenient to the parking area provided especially for public use of the auditorium.

## Plan Analysis

A distinct possibility arises that youth and adult activities of an entirely different nature will take place simultaneously at the school. The advantages, therefore, of widely separating the auditorium and gymnasium far outweigh the problem of the travel distance between. The strain of trying to adjust to the convenience and need of others is eliminated. Traffic problems are reduced to the minimum, as separate parking areas are provided. The interest of safety and quiet will be best served when on occasions sports and cultural events coincide.

By placing the music department at the side of the auditorium and removed from the other units of the building, we eliminate the need to insulate against noise. Other noisy



Plot Plan, Regional High School Number Four, Chester-Deep River-Essex, Connecticut.  
Ernest Sibley, A.I.A., Architect, West Hartford, Connecticut.

sections, such as the shops, gymnasium, and cafeteria, are also well isolated from the main portion of the building.

The arrangement of the cafeteria affords direct access from the school corridors, and allows easy exit to the terrace outside.

In properly planning the academic portion of the school we were faced with three specific requirements: (1) to provide complete circulation by means of corridors, (2) proper orientation for all rooms, and (3) specific relation between departments.

#### Circulation

Traffic within the school, instead of being evenly distributed throughout the day, tends to concentrate into a series of peak loads with intervening periods of quiet. During the peak periods, the school population moves at one time along the corridors. It is not a simple flow in one direction; rather, it is two-directional, and is complicated by traffic to and from flanking passages and rooms.

The problem of circulation has been solved

by the use of courts and cross corridors, as well as by longitudinal corridors which divide the traffic through alternate routes from point to point within the building. Note that the auditorium may be approached from more than one corridor.

#### Orientation

With the exception of special rooms such as art, library, and biology, east and west exposures are considered most desirable. However, in this climate, a west room unless it is protected by a court or by a wing of the building, presents a problem in temperature control. In so far as possible such unprotected west rooms have been avoided. The plan is also arranged to provide north light for the art department and library.

#### Relationship Between Departments

The home economics suite is connected with the art department and is convenient to the industrial arts. The areas assigned to science are closely related to the space designated for

industrial arts. A centrally located library is easily accessible to all other units, especially to the spaces allotted to English, social studies, and the languages.

Areas designated as industrial arts, custodial help, boiler room, and kitchen are so grouped that deliveries of supplies may be made from one service driveway.

#### Future Expansion

The building is planned and so located on the site, that it can be readily enlarged to meet the need for future expansion, by extending to the north.

#### The Concept

These, of course, are the functional aspects of the project, and when thus set down in concrete form they can be readily analyzed. It may appear like putting together a jigsaw puzzle, but while the architect experiments in fitting the necessary elements into a plan, an architectural concept is evolving in his mind. It is this concept that guides his hand as he

forms and shapes the structure, and from these root forms the building grows—to flower finally into an architectural whole. As in every other form of art, “simplicity is made beautiful and expressive by all of the labor and strategy at the artist’s command.”

During a discussion of school architecture, Owen D. Young once intimated that the real test of a building architecturally is when you

return to it after maturity, when your cultural education has been attained by association, study, and travel. If your school looks as beautiful to you then as it did in your childhood, it exemplifies the best in education.

It is this satisfying experience that we invoke for all the generations of youth from the Towns of Chester, Deep River, and Essex who will pass through the doors of Regional

High School Number Four, and who will return at every opportunity to claim it as their own.

Regional High School Number Four is now under construction. Bids were taken in October, 1950, and the contract sum for construction is \$1,136,000, or \$13.40 per square foot. This is considered low for the area in which it is being erected.

## Another Regional High for Connecticut

*A. Kurtz King\**

Regional High School Number Four will house the youth in grades seven through twelve of the Towns of Chester, Deep River, and Essex, Conn. It is designed for a comprehensive secondary school program to accommodate an initial enrollment of 550 pupils and an ultimate enrollment of 800 pupils.

The site on Kelsey Hill, Deep River, includes almost fifty acres of land and overlooks an expansive valley of farmland and wooded hillsides. The one-story brick and glass building will occupy the plateau on the top level of the site. Surrounding lawns, driveways, parking space, the baseball field, and the free play areas are on the same level as the building. Football and hockey fields, picnic area, and additional free play areas will be on lower levels separated by terraces.

The building is well adapted for future expansion. The gymnasium, auditorium, and the cafeteria are sufficiently large to accommodate the anticipated ultimate enrollment. For additional classrooms or laboratories, the corridors can readily be extended to the north with single or double loading. An additional connecting corridor will facilitate pupil circulation in such proposed extensions.

\*Superintendent of Schools, Regional School District No. 4, Chester, Conn.

Flexibility is afforded by putting flues, plumbing, built-in cabinets, etc., on the longitudinal walls of the rooms and using non-bearing partitions between rooms.

The library is the nucleus of the academic part of the plant. The charging desk is between the two exits. The main reading room is circular, with bookshelves all along the perimeter. Although only a quadrant has windows on the readers' level, the entire perimeter has 3 feet of glass block adjacent to the 16-foot ceiling. The adjoining conference room, library workroom, stack room, and storage space utilize the corner space surrounding the circular room of 45-foot diameter. An extra feature is the record-listening room beyond the conference room.

### Academic Rooms

The typical classroom is planned to accommodate an average class size of 25 students. The built-in equipment includes a teacher's closet and cabinet space for books, supplies, special equipment, and project storage, as well as a display ledge. Two legal-size file drawers are in the corner cabinet and worktable combination. Pupil seating will be of the movable chair-desk type.

The English laboratory is designed for greater emphasis on spoken language than the

traditional program formerly included. The little stage, with its adjacent storage space, affords the setting for developing facility in drama and public speaking. The remaining laboratory space has very flexible use. The class can become the audience for the performers on the stage or the group can engage in committee planning work, or in evaluating a previous performance.

The speech room can serve for voice recording and playback, in public-address practice, or in speech coaching for better enunciation, articulation, or modulation.

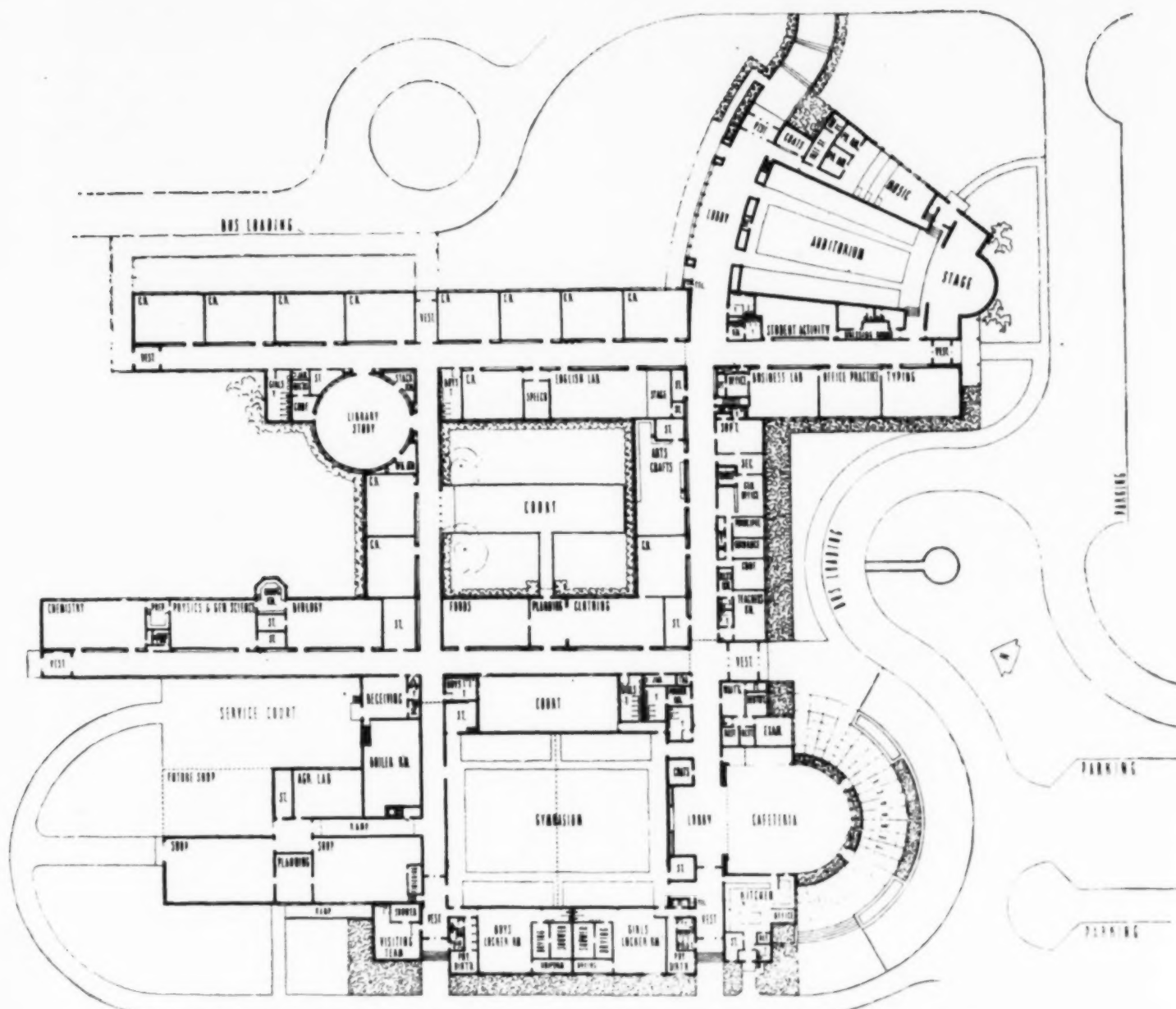
The music department has its quarters adjacent to the auditorium. It includes suitable instrument and uniform storage space as well as two practice rooms for ensembles, small groups, or individuals. Half of the main classroom is arranged on four different levels for glee club orchestra or band rehearsals. Regular music classes can use the other half of the room which has a level floor. From the music room, groups have ready access to the stage or the front of the auditorium.

The auditorium is planned for about 650 seats. This will accommodate the entire pupil enrollment for the first several years. For the ultimate enrollment two assemblies will be used. There are no windows for the auditorium. Mechanical ventilation is adequately flexible



Perspective, Regional High School Number Four, Chester-Deep River-Essex, Connecticut.  
Ernest Sibley, A.I.A., Architect, West Hartford, Connecticut.





Floor Plan, Regional High School Number Four, Chester-Deep River-Essex, Connecticut.  
Ernest Sibley, A.I.A., Architect, West Hartford, Connecticut.

to handle varying conditions for the complete comfort of the audience. Light control is easier with all artificial lighting. Coat room, powder room, public toilets, and a telephone booth are convenient for the use of the public who attend auditorium events.

The stage is ample and functional for a variety of activities. There is easy access to dressing room and make-up areas. Scenery and stage property can be drayed to the east door for convenient access to the stage.

The student activity room serves as the headquarters for the student council, the student publications, and miscellaneous committee meetings. When the room is not in use for its primary purpose, it can double for an audio-visual aids room.

#### The Shops and Workrooms

Business education is arranged en suite, with each room having a lavatory. This area has a department headquarters which also serves as a model office. Supply storage for these subjects is controlled through this department office.

Arts and crafts are taught in the room closest to the main office of the school. Projects and work in this department are readily available for display to the public through this location.

Homemaking and the shop area both have planning centers for small groups, to use while major parts of the classes are using specialized equipment in adjacent laboratories. These planning centers are closely associated with the larger activity areas by communicating doors and glazed or folding partitions. The classroom between the homemaking center and the art room affords expansibility from either department. The laboratory for agriculture is adjacent to the shops to incorporate the latter facilities for agricultural shopwork.

The physical sciences have a wing of their own. Chemistry is farthest removed from other rooms to afford better isolation for objectionable odors. The growing room has an east exposure. It affords an opportunity for demonstrating many biology facts.

The gymnasium is a double one, affording two practice courts and physical education

spaces or a contest court with telescopic bleachers to seat 800 spectators. The equipment storage room in the northeast corner has a double door to admit the parallel bars and allied equipment.

The locker rooms will be equipped with a box locker for every pupil in the school and a sufficient number of 3-foot lockers to accommodate the largest physical education class.

The box locker will receive the pupil's gymnasium equipment. His street clothing and surplus box locker items are put into the 3-foot locker while the pupil is in his gym class. His combination lock normally used on the box locker is transferred to the locker with the street clothing until the end of the class at which time it is returned to the box locker hasp. Thus the short locker is used throughout the day and may also be available for community groups who may use the gymnasium after school.

The locker room will also include full length lockers to accommodate players on athletic teams. One set of such lockers for the full

(Concluded on page 100)

# Art Rooms for New School Buildings

Leon L. Winslow\*

Illustrated by A. W. Carlson\*\*

With a view to providing more effectively for the needs of classes in art in elementary and secondary schools, the writer has, with the help of teachers, supervisors, and the manufacturers of school equipment and furniture, drawn up the accompanying specifications for art rooms, including art workshops, studios, and art service rooms (Fig. 2). Many of the suggestions contained in the specifications that follow should apply equally to other rooms in the school building.

## Location of Art Department

There are no better facilities available for selling the school program to the community than those offered by the art department. Due to the display features appropriately connected with present-day art education, the rooms for carrying it on should be grouped near the main entrance of the building.

Art departments in new buildings and in reconstructed old ones should, due to the very nature of a subject which is colorful, creative, and exciting, be on the ground floor and so located as to facilitate the delivery of such materials as wood, plaster, clay and sometimes metal and stone for use in craftwork, sculpture, and some other arts.

Since the art department is often called upon to make scenery and properties for plays, operettas, and other school perform-

ances, it is also desirable that the rooms for art should be in close proximity to the stage of the auditorium or assembly room, if there is one in the building.

## Space

Recommendations for elementary school buildings, where art is not taught by special teachers, should include an art service room. This art service room located near the entrance to the building and containing general resource facilities for teachers and classes throughout the entire building is half the size of a standard classroom and should be furnished with built-in storage cupboards extending along one side only, exactly like those to be specified later for the back of the studio unit. The art-service room should have display windows cut through the partition separating the room from the hallway. The room is furnished with a desk, chairs, and general equipment including such items as a portable table, a kiln, and tools for light woodwork and metalwork. (See accompanying plan at right of Figure 2.)

Recommendations for art rooms for elementary schools where the services of specially trained art teachers are available, should include one or more studios. These rooms should be equivalent in size to two standard classrooms. The art department in a particular elementary or secondary school building may, therefore, according to the size of the school,

embrace but a single studio or several studios and an art-service room.

A complete art department in a secondary school, art school, or college might appropriately include studios for such courses as general art, painting, sculpture, arts and crafts, commercial art, architecture, and theater art respectively. The geographical location of the school would, of course, often influence the type of activities to be carried on.

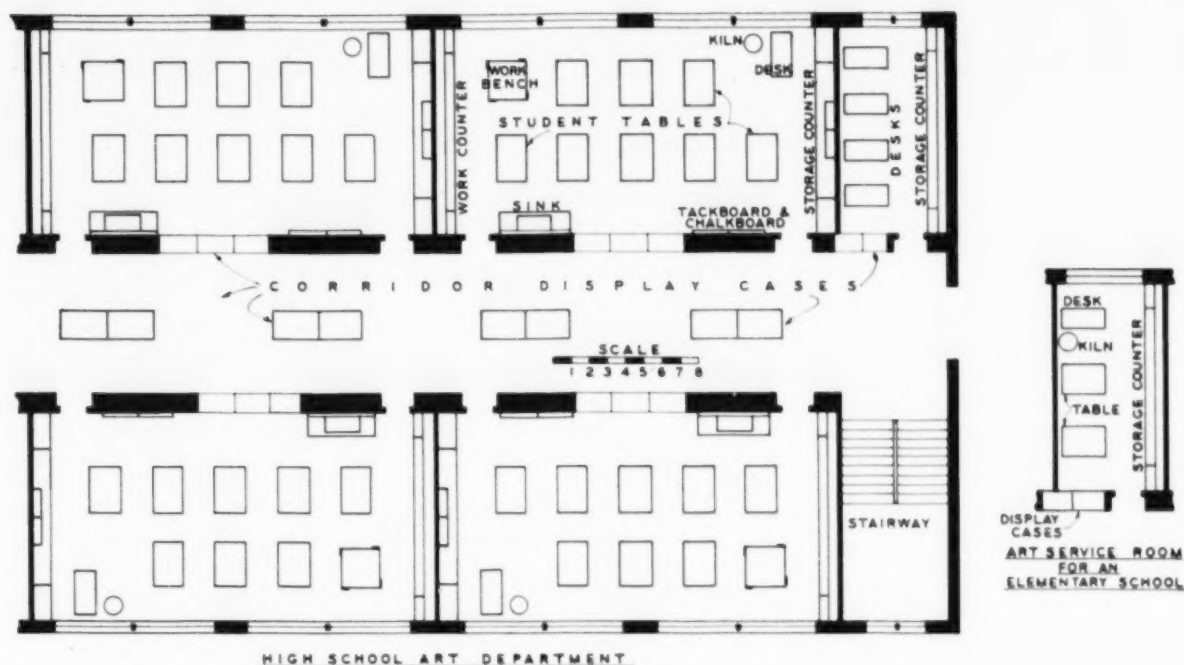
In large school buildings where more than one studio is required, the need for room accommodations may be met by providing multiples of this unit and, if the department is large enough, by including an office (art-service room) for the head of the department.

Including any number of art studios in a standard large school building should involve no unusual modification in the plans for any building, in which an exhibition area may be formed by placing the units opposite each other along both sides of the usual corridor, their respective display windows arranged directly opposite each other.

The display feature is such an important aspect of the art education program that providing facilities for showing exhibits may be justified to the extent of including in the plans for new buildings a wider hallway. The width of the hallway should be of a size sufficient to make possible the placing of one studio across the end of it, the corridor thus becoming a school museum, illuminated by fluor-



Fig. 1. Suggested Built-in Cabinet Work for High School Art Room.



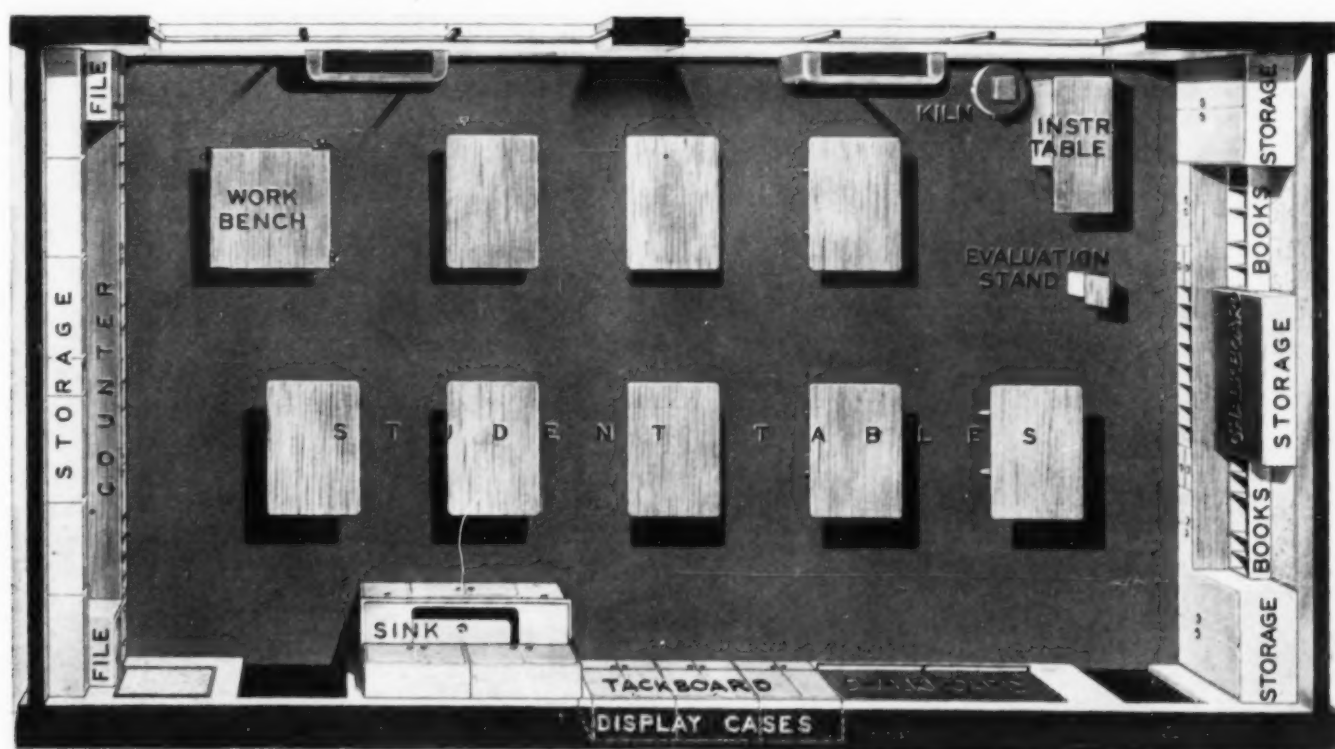
escent-lighted display windows and by similarly illuminated freestanding museum cases placed centrally and opposite the doors and blank walls. These cases should be approximately 4 by 8 feet in plan and 6 feet high. Each should have four plate-glass sides and a plate-glass top and should be mounted on a base with sliding plywood doors. These cases are best illuminated by an adjustable inconspicuous spotlight placed in the ceiling directly above the center of the case. The needs for industrial arts, home economics, and science,

as well as art, could also be met by adapting the art rooms described to the needs peculiar to these areas, and a building thus planned to accommodate the various departments.

The studio and art-service rooms described have been functionally designed for convenience, with no piece of furniture or equipment extending more than 7 feet above the floor, which makes all shelving within easy reach of persons of average height. The general art studio, shown in the illustration (Fig. 3), is equipped with large movable

tables, chairs with rack beneath seat for holding books, and a large square workbench equipped with a vise at each corner, a kiln and other pieces of equipment for general use in carrying on arts and crafts activities.

Placed opposite the outside windows of the studio and against the interior wall, not far from the back door of the room is a corrosion-resistant sink with drain boards at both ends. The advantages of this lifetime material include perfect resistance to abrasion and to stains of all kinds, with no chance of chipping





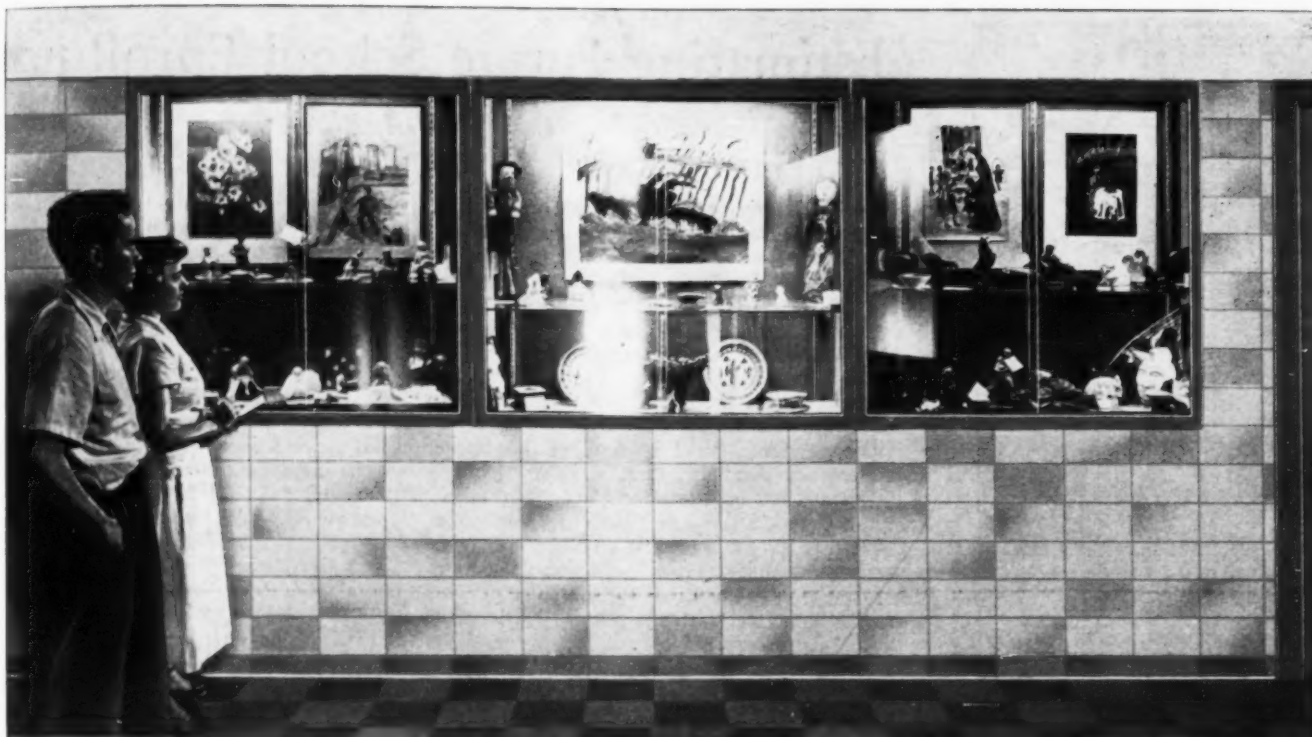


Fig. 4. Corridor Show Window for Displaying Art Work.

or breaking. The sink has cupboards beneath it for keeping ceramic and other materials. Above it are wooden cupboards for additional storage.

#### Needed Cabinetwork

At the front of the room an assembly of cabinetwork should include two tall wardrobes with hinged doors, one of which is equipped with eight adjustable shelves. At the center there should be a chalkboard concealing a cabinet with three shelves, with tackboard at either side. There should also be at either side of and below the chalkboard, built-in cabinets consisting of a deep table-high section for filing illustrative material and pupils' work. Included too are open shelves with compartments for standard and oversize books and plates, vertical letter-size files, cupboards with hinged doors and two shelves each. One of these cupboards should be metal lined for holding clay products in process of making, as indicated in the illustration.

Across the back wall (Fig. 1), built-in cabinetwork should include table-high sections of varying sizes, two taller vertical files for large paper stock or pupils' work, and six upper cabinets. It is recommended that all of the cabinets have flush doors because these are more easily cleaned and modern in appearance. All shelves must be adjustable to make the cupboards adaptable for all types of storage. Workmanship and finish as well as good qualities of all materials used will contribute to the utility and life of the cabinetwork.

#### Electrical Facilities

In addition to natural lighting there should be adequate artificial lighting for dark days and evenings, adjustable spotlights with louvers, installed in the ceiling and near the

ceiling on the outside wall to illuminate the chalkboard, tackboards and evaluation stand at the front of the room, demonstrations, works of art, and the work of students for discussion and criticism.

It is recommended that the general room illumination be so arranged in three circuits that the lighting fixtures nearest the hallway may be operated independently from the other lights in the room, and the spotlights independently of these.

In order that visual aids may be used effectively opaque shades or curtains should be installed at all openings that admit daylight. If roller shades are used there should be one wide shade provided for each group of windows. Suitable ventilation facilities should be included in the plans of the building in order that there may be plenty of fresh air when the room is darkened.

There should be electric outlets for stereopticon, motion-picture projector, kiln and other appliances, properly located. Outlets for kiln and other appliances should have wiring heavier than standard.

#### Tackboard and Chalkboard

There should be bulletin board, of cork or of homasote, installed on the wall and elsewhere for the display of illustrative material and pupils' work as indicated in the illustrations. A chalkboard of standard height should be located at the center of the front wall, with tackboard at either side of it. An eight-foot roll-type prismatic or dull white stereopticon screen should be installed directly above the chalkboard. There should be two sections of multiservice chalkboard fixture installed on wall, near the front door of the room. These adjustable surfaces also afford excellent areas for display and at which students may work.

#### Corridor Show Windows

Display cases with glass shelves should be built into the wall that separates the classroom from the hallway (Fig. 4). These are for the showing of flat and three-dimensional work, and are equipped with shelves of heavy plate glass. The cases are furnished with fixed plate-glass windows flush with the corridor wall. Hinged doors on the room side should be of laminated wood covered with tackboard on both sides. Beneath this unit and opening into the room but not into the hallway are storage cupboards. All of the cases should be adequately lighted.

Collections of pupils' work and art objects, prints and books lent by the public library and art museum may be arranged in these window cases, the students being given an important part in the preparation and arrangement of the exhibits shown.

#### The Specialized Department

In adapting the foregoing specifications to the needs of vocational and technical schools and classes, the studio and art-service room embraced, including built-in display cases and cupboards, should be found satisfactory for both general and special schools or classes. Special movable furniture and equipment may be substituted where necessary for that shown in the accompanying plans. A course in sculpture, for example, would require the substitution of modeling stands for the art tables; a course in painting, the substitution of easels for tables. Vocational and technical schools should, however, arrange to have at least one complete general art room before expanding the program to include units for the specialized courses.

(Concluded on page 97)





# School Heating and Ventilating Practices in the United States *H. W. Schmidt*

The school of today is quite different from that erected at the beginning of the century, and even the school of 25 years ago is now considered more or less outmoded. There are a good many reasons for this. Educational theories and emphasis upon certain features of instruction are having their influence not only on teaching methods but also upon the housing of our school children. Such concepts call for definite changes and have resulted in our modern schoolhouse, a far cry from the ornamented, towered and spired and gabled building of the eighties.

The problem of erecting a school building which is functional in its planning, meets the needs of the present era and withal is reasonable in cost, has received much attention at the hands of such organizations as the American Institute of Architects, the National Council of Schoolhouse Construction, and numerous school architects — and the results of such efforts, in general, have been gratifying. We no longer have building plans sold on the basis of an imposing exterior, but most school officials are aware that efficiently planned interiors, serving to best advantage their occupants, are of infinitely more importance than a façade of intricately cut stonework, especially when we consider that we are forcing over 25 million children into such buildings from three to six hours daily for nine to ten months of the year. We are all agreed that children *shall* attend school but we are not yet in perfect agreement when it comes to providing for them the best possible "living" conditions. It would seem that it is our civic responsibility, in fact our duty, to provide for them an environment which is not only pleasing and safe but hygienic as well and conducive to a high degree of comfort.

No one is willing to admit that poor lighting, untidy surroundings, cold feet or an overheated body are stimuli facilitating mental concentration on the part of the child or that they further the learning process. It is not necessary to quote from the professional and educational literature that a very high degree of correlation exists between mental assimilation and physical comfort.

This brings us face to face with the problem of what constitutes physical comfort. It will be agreed that the term is as much a subjective as it is an objective one — as we are not all constituted alike. Of late years quite a number of studies and much research have been made along various lines, such as those of the Illuminating Engineering Society, the General Electric Company, the American Public Health Association, the American Society of Heating and Ventilating Engineers, the New York Commission on Heating and Ventilation and numerous individuals, all of which have contributed much to our understanding of the subject "comfort."

Many of these findings have been instrumental in developing better school buildings and some have been used as a basis for, and adopted as part of, "Requirements" or codes or "Suggestions for School Planning," both state wide and local. Architects have been guided by these and many have been incorporated in the design of the modern school.

This paper, as indicated by its heading, concerns itself with the present-day practices of heating and ventilating school buildings. Of course we know that the old CO<sub>2</sub> theory is an exploded one and organic poisons have proved a "dud"; that the air we breathe is not nearly as important as the movement of air in contact with the body, or that the old standby of "30 cubic feet of air per minute per child" is *essential*, or that artificial humidification is necessary in but few instances.

But it does appear that ventilation or air conditioning in its broadest sense is *the* problem in the housing of any sedentary

occupation and of greatest importance in school buildings. Though there may be others, many feel there are a few outstanding factors which should be born in mind when speaking of ventilation. These are (1) a certain amount of air movement, (2) some outside or "fresh" air, (3) tempering the air supply, heating, (4) exhausting some of the vitiated air, and (5) cleaning the air supply where dust or dirt make it necessary. We are, however, not wholly agreed on the quantitative relationships existing among some of these items.

This relationship is usually determined empirically or based on individual reactions. Unscientific as it may be we are in many cases still dependent upon the subjective reaction of the individual for a share of our "standards." Individuals will feel cold or hot in spite of health specialists dicta or engineers formulae, or even in the "ideal atmosphere" as developed by the experiments of the United States Bureau of Mines, the United States Health Bureau, and others. But we are progressing as scientific data is accumulated.

In practice, many regulations on heating and ventilation published and set up evade this situation by using such terms as "ample," "sufficient for comfort," "as required," or "to assure healthful conditions" — but what these terms specifically mean — that is another matter. But as we are not too sure of our ground, scientifically, we are forced into a situation which does call for some objective and even some mathematical statements — thus our "standards." No doubt these will be revised and modified as we progress in our research in this important health problem.

Such questions, implied in these statements, have prompted this study to determine, in a measure, the practices of heating and ventilation in the schools of the nation. It was thought best to get at the fundamental data through the questionnaire method supplemented by published material and by correspondence in many instances. The results are found in the accompanying table which gives the various brief answers to the more important items under study. To give all the factors and details submitted would take a book to discuss but impossible in a brief article such as this. But the reader will get a fairly good overview of the situation. As quite a few states, 17 in number, have no regulations, codes, or suggestive material on heating and ventilation; some 35 of the larger cities in these states have been contacted to determine if locally, rather than state wide, there are any regulations in force. The results will be set forth in the second part of this study.

## Heating

Heating, as may be surmised, is treated quite briefly in the codes; usually a few paragraphs cover the subject and much of that concerns itself with the mechanics of construction of flues, chimneys, etc. Only 15 refer to the heater room and its fire resisting construction, ranging from one-hour fire rating to "completely fireproof." A few call for complete separation of this space from the building at large.

One interesting requirement, in New Jersey, calls for an outside air supply to the heater room "for combustion." The writer has had several experiences where the heater space was constructed so airtight that it interfered with the air supply for combustion. Two other codes imply the need of such an air supply.

In 23 states the temperature of the classroom was made a requirement, mostly 70°, though South Carolina permits a variation from 65° to 70°, while four states mention a high of 72°. The heaters approved vary from a "stove," "room heater," and



furnace to a boiler; high pressure boilers are specifically taboo in quite a few instances. The methods cover direct radiation, shielded in most cases; furnace heating, both gravity and forced air types; and four states—California, Connecticut, New Jersey, and Virginia—mention and permit panel or radiant heating while two approve this by implication. The older codes, of course, do not mention the latter method. Temperature control is called for quite consistently. One state, Wisconsin, makes heating a concomitant factor for three Temperature Zones in the state where the average coldest temperature ranges are 24°, 34°, and 42° below zero. Heating plants are to have sufficient capacity to cope with the above.

One unusual comment is made in the Missouri and Michigan School Building Guides and that is that the heating plant should be so designed that the administrative offices can be heated separately from the building at large, thus permitting their use in winter when school is not in session. And by the way, the writer has advocated this for many years but has found little compliance with the suggestion.

### Ventilation

The topic of ventilation has received much more attention than that of heating, as may be surmised, and 50 per cent of the states have some standards, either statutory or regulatory, and in a few instances, advisory. Some states like Missouri, Ohio, Indiana, and Wisconsin treat this subject in quite a detailed and comprehensive manner and the last mentioned state has published an extensive bulletin on "School Heating and Ventilation" in its series of bulletins entitled, "Wisconsin Co-operative School Health Program." Even though not represented in the above fifty per cent, most states make some reference to ventilation in its various aspects without going into details or committing themselves to quantitative statements. They call for or recommend "comfortable air conditions," "healthful air movement," "adequate air supply," "where essential to comfort," etc.

Exhaust methods are mentioned for both "natural" and mechanical ventilation in most instances, and "foul" air is still being found in a few cases though most regulations use the term "vitiated" as coming nearer the truth. Consistent operation of the plant is another matter which is called for in many instances and rightly so. Here again the writer can call upon his experience which indicates the necessity for this statement. As one custodian, or was it just a janitor, remarked, "Them kids are warm enough, besides it costs money to run them fans—they ain't going to be sick and the building leaks air anyway." So there you have the dictum of the man in charge. And by the way, the principal was not interested; he too thought it cost too much. Isolated instance? Not at all—so consistent operation is a justifiable regulation.

The question of providing adequate humidity has been discussed in a number of cases, and some states such as Minnesota, Missouri, Michigan, Oregon, West Virginia, and Wisconsin call for some regulation regarding this, though the last named state's orders are modified by, "where humidifiers are used . . ." Minnesota calls attention to a "summer switch" that will operate a mechanical ventilating system during warm weather, a modified air conditioning system; it should work to advantage and may well be copied elsewhere.

Direct-indirect ventilation is prohibited by both Minnesota and Wisconsin. This method consists of a direct radiator placed on the outside wall and outside air introduced at the base or any other part of the radiator. Window ventilation including the so-called breeze windows, is specifically authorized in a few states, especially those in the southern group, though California, Michigan, and Washington are also in the "permissive" group. The last named specifically calls for deflectors and specifies the size of the exhaust duct. Corridor ventilation, where air is exhausted into the corridors and then vented, is not approved in West Virginia. Air filters for mechanical systems are required in but few states such as Minnesota and Wisconsin, though in some states the implication in this direction is obvious.

In virtually all cases floor registers of any kind are prohibited and vent grills are required on the inside walls and near the floor

TABLE A

| State            | State Building Code | Code Provides for H & V | Separate Code for H & V | School Building Guide | Heater Room Construction | Classroom Temperature | Amount of Ventilation Air | Per Cent of Outside Air | Approval of Plans By | Inspection by Department Routine On Request | Inspection by Others |
|------------------|---------------------|-------------------------|-------------------------|-----------------------|--------------------------|-----------------------|---------------------------|-------------------------|----------------------|---|----------------------|
| Ala.             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | ..                   |
| Ariz.            | N                   | ..                      | N                       | Y                     | ..                       | 70°                   | 30 CFM                    | 33½                     | Bd. H.               | N   | ..                   |
| Ark.             | No Reply            | ..                      | ..                      | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | ..  | ..                   |
| Calif. (1)       | Y                   | Y                       | N                       | ..                    | F.R.                     | 70°                   | 10 CFM                    | ..                      | Ed. Dept.            | Y   | ..                   |
| Colo. (2)        | Y                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | ..  | Ind. Com.            |
| Conn. (3)        | Y                   | Y                       | N                       | Y                     | F.R.                     | 70°                   | 10 CFM                    | 100                     | Ed. Dept.            | Y   | Y                    |
| Del.             | Y                   | Y                       | N                       | ..                    | ..                       | 70°                   | 10 CFM                    | ..                      | ..                   | Y   | Y                    |
| Fla.             | Law                 | Y                       | N                       | ..                    | F.R.                     | ..                    | ..                        | ..                      | Ed. Dept.            | ?   | ..                   |
| Ga.              | N                   | ..                      | N                       | Y                     | F.R.                     | ..                    | ..                        | ..                      | ..                   | N   | Safety Office        |
| Idaho            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |
| Ill.             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |
| Ind.             | Y                   | ..                      | Y                       | ..                    | ..                       | 70°-72°               | 30 CFM                    | 33½                     | ..                   | Y   | Y                    |
| Iowa             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |
| Kans.            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | St. Arch.            | N   | F. Chief et al.      |
| Ky.              | Reg.                | ..                      | N                       | ..                    | ..                       | 70°                   | ..                        | Window Vent             | Ed. Dept.            | Y   | Y                    |
| La.              | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | Ed. Dept.            | Y   | Y                    |
| Me.              | N                   | ..                      | Y                       | ..                    | ..                       | 70°                   | 15 CFM                    | Some                    | Ed. Dept.            | Y   | Y                    |
| Md. (4)          | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | N   | ..                   |
| Mass.            | Y                   | Y                       | ..                      | ..                    | F.R.                     | 68°                   | 30 CFM                    | 50                      | ..                   | N   | Dept. Public Safety  |
| Mich.            | N                   | ..                      | Y                       | ..                    | F.R.                     | 70°-72°               | 10 CFM                    | 25                      | Ed. Dept.            | N   | State Fire Marshal   |
| Minn.            | Y                   | Y                       | ..                      | ..                    | F.R.                     | 70°                   | 30 CFM                    | 50                      | Ed. Dept.            | Y   | Y                    |
| Miss.            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | Ed. Dept.            | Y   | Y                    |
| Mo.              | N                   | ..                      | N                       | Y                     | ..                       | 70°                   | ..                        | Some                    | Ed. Dept.            | Y   | Y                    |
| Mont.            | N                   | ..                      | Y                       | ..                    | ..                       | 70°                   | 6 Air Changes             | 10                      | Bd. H.               | Y   | Y                    |
| Neb.             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | ..  | ..                   |
| Nev.             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | Ed. Dept.            | Y   | ..                   |
| N. H.            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |
| N. J.            | N                   | ..                      | N                       | Y                     | ..                       | 70°                   | 10 CFM                    | 100                     | Ed. Dept.            | Y   | Y                    |
| N. M. (1)        | Y                   | Y                       | ..                      | ..                    | F.R.                     | 70°                   | 30 CFM                    | ..                      | Bd. H.               | Y   | Y                    |
| N. Y. (5)        | Reg.                | Y                       | ..                      | ..                    | ..                       | 68°-72°               | ..                        | ..                      | Ed. Dept.            | Y   | Y                    |
| N. C.            | Y                   | Y                       | ..                      | ..                    | ..                       | ..                    | ..                        | ..                      | Ed. Dept.            | Y   | Y                    |
| N. Dak.          | Y                   | Y                       | ..                      | ..                    | ..                       | 70°                   | 15 CFM                    | 50                      | Ed. Dept.            | ..  | ..                   |
| Ohio             | Y                   | ..                      | Y                       | ..                    | F.R.                     | 70°                   | 6 Air Changes             | 100                     | Dept. Int. Rel.      | Y   | Y                    |
| Okla.            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | Fire M.              | Y   | Y                    |
| Ore.             | N                   | ..                      | N                       | Y                     | F.R.                     | 68°-70°               | 15 CFM                    | ..                      | Ed. Dept.            | Y   | Y                    |
| Pa.              | N                   | Sch. Law                | ..                      | ..                    | F.R.                     | ..                    | ..                        | ..                      | Ed. Dept.            | Y   | Y                    |
| R. I. (6)        | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | N   | Sch. Com. of Towns   |
| S. C.            | Y                   | Y                       | ..                      | ..                    | ..                       | 65°-70°               | 30 CFM                    | ..                      | Ed. Dept.            | Y   | Y                    |
| S. Dak.          | N                   | Law                     | ..                      | ..                    | ..                       | 70°                   | 30 CFM                    | ..                      | Ed. Dept.            | Y   | Y                    |
| Tenn.            | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | Fire M.              | Y   | Y                    |
| Tex.             | Sch. Law            | Y                       | ..                      | ..                    | ..                       | ..                    | 30 CFM                    | ..                      | Ed. Dept.            | Y   | Y                    |
| Utah             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |
| Vt.              | N                   | Bd. H.                  | ..                      | ..                    | ..                       | ..                    | ..                        | ..                      | Bd. H.               | Y   | Y                    |
| Va.              | Law                 | ..                      | N                       | ..                    | ..                       | ..                    | 3 Air Change              | 100                     | Ed. Dept.            | Y   | Y                    |
| Wash. St. Bd. H. | Y                   | ..                      | ..                      | ..                    | ..                       | 70°                   | 10 CFM                    | 100                     | Bd. H.               | Y   | Y                    |
| W. Va.           | N                   | ..                      | Y                       | ..                    | F.R.                     | 68°                   | 10 CFM                    | ..                      | Ed. Dept.            | Y   | Y                    |
| Wis.             | Y                   | ..                      | Y                       | ..                    | F.R.                     | 70°-72°               | 30 CFM                    | 33½                     | Ind. Com.            | Y   | Y                    |
| Wyo.             | N                   | ..                      | N                       | ..                    | ..                       | ..                    | ..                        | ..                      | ..                   | Y   | Y                    |

## NOTES

- Both states use the Pacific Coast Building Code as a base.
- This state uses the American Standards Association Code.
- This is the only state which does not apply the regulations to private schools.
- The State Building Code is in process of being submitted to the new legislature.
- The Regulations are those of the University of N. Y. and the State Education Department.
- The Director of Education, "shall approve standards for lighting, heating, and ventilation." (The standards were not submitted.)

line. Inlet registers for mechanical systems are universally to be located from seven to eight feet above the floor and many regulations specify the maximum air velocity so discharged. In a few instances the maximum temperature of the inlet air is also specified.

**In General —**

It will be evident to the reader, after studying the tabular material and reading this article that the subject of heating and ventilating our school buildings has not received, in many cases, the attention of those responsible. This is true especially of ventilation. This is not a criticism and the situation may be attributed to a lack of scientific data, physiological reactions of individuals, and in general to the attitude that, "our school children have always been rather healthy and even if we do not have a system which you consider a good one, it works o.k. and nobody has kicked." That is a literal quote. Maybe so, but —

In this connection we find that codes, regulations, and "guides" pay much attention to the mechanics of construction, and rightly so, but one does do some thinking when one code lists nearly 30 pages of plumbing requirements and devotes only one paragraph to heating and ventilating and then refers the reader to another authority. One wonders too, that most regulations specify artificial lighting by pages and devote one or two paragraphs to the subject under discussion. (Guide A gives three and one-half pages to lighting vs. one paragraph to ventilation; Guide B gives two and one-half pages for lighting vs. three short paragraphs to ventila-

tion; Guide C gives one and one-half pages vs. two very brief paragraphs.) The writer is definitely committed to good lighting; in fact, has devoted a great deal of time to the subject, but he is also just as much interested in heating and ventilating our schools. He would like to see more attention paid to the latter subjects.

That many of our schools have a good heating and ventilating system is no doubt due, in a great measure, to the architects and their professional brothers, the heating engineers. In most instances they have done a first-class and efficient job even if there are no state or local regulations governing this part of their work. Yet their task would be lightened and perhaps made even better if adequate and defensible guide lines were provided, as implied in this brief article which will be completed in a brief study of the subject as practiced by the larger cities in the nation located in states which have no real regulations.

In closing, the writer would like to comment upon the many School Planning Guides such as those issued by Connecticut, Maine, Michigan, Missouri, New Jersey, Oregon, Pennsylvania, and West Virginia which should prove helpful to all who study them, even if the subject under discussion herein is not treated as fully as may be.

**A Southern School —**

# The Haines City High School Building

*J. D. Jenkins\**

The new Haines City High School was successfully designed with various specific items in mind as follows:

1. Advantageous use of a rolling hill site overlooking a beautiful lake
2. The mild Florida climate
3. The educational and community needs of a consolidated secondary school in a town of 5000 people
4. Functional rather than monumental architectural design

The architect, L. Alex Hatton, Orlando, Fla., together with his associate architects, Perkins and Will of Chicago, co-operated with the school board, the board of trustees, the local advisory committee, the school administrators, faculty members, school patrons, and other school personnel in planning the type of school plant which would provide the ideal facilities for the various activities of the school and the community.

The five and one-half acre site adjoins a 25-acre city-owned area which includes athletic field, recreation facilities with a lake, and a gymnasium which are used by students. The homemaking and industrial-arts departments are located on adjoining property in temporary buildings.

The unit plan with connecting covered walkways was chosen for a number of reasons.

In the first place, the school board was eager to get the most possible for the \$400,000 bond issue without sacrificing quality. By arranging the various units to follow the contours of the hillside, excavation costs were considerably reduced. Open walkways were much cheaper to construct than corridors, and



Excellent advantage has been taken in the Haines City High School of the variations in level of the site.

one-story construction eliminated expensive and hazardous interior stairways and a considerable amount of structural cost necessary for taller buildings. The higher cost of fire-proof construction for two-story buildings was also saved. It was found economical to use jumbo clay brick only on the exposed walls, and to place less expensive concrete blocks under the walkway roofs and on the north sides where alternate sunshine and rain do not cause expansion and contraction cracks in the block construction. The use of painted concrete blocks in the interior instead of plaster showed an additional saving.

The unit type of construction is conducive to better health and safety of pupils in a mild climate. Pupils eyes are protected by eliminating all direct rays of the sun and by placing north windows in all classrooms. Clerestory windows on the south side under broad eaves

admit only reflected light from the white walkway roofs to classroom ceilings which gives an equal distribution of light throughout the rooms. The clerestory windows also provide the desirable cross ventilation in every room in a climate in which there are many warm days. Since every room opens outside, the buildings can be emptied in a few seconds in an emergency.

The open walkways eliminate excessive corridor noise and congestion. The proposed gymnasium and industrial-arts building are to be grouped with the band building in a noise area away from classrooms. Another factor in the reduction of noise is the placing of the buildings in such a way that no two structures are parallel. Interior ceilings utilize acoustical tile in noise reduction.

Since the school has a great deal of evening use in adult classes, meetings, parties, ban-

\*Supervising Principal of Schools, Haines City, Fla.





The library is attractive and comfortable in hot as well as temperate weather.

quets, and library work, the unit plan makes possible the opening, lighting, and heating of only the units used.

This type of construction makes the erection of additional buildings in a growing community relatively easy without upsetting the over-all design. The plot plan shows the planned future expansion.

The library, designed for public use as well as for pupils, has glass on two sides, with broad eaves and vertical louvers to keep out direct rays of the sun. The open-air reading terrace is an innovation which delights the pupils.

The lunchroom serves many additional purposes, including small dramatic productions, glee club rehearsals, dances, parties, and banquets. The audio-visual room is provided with a small stage which is used for dramatizing bits of history and literature and for speech practice.

Instead of two laboratories, one large room, with demonstration desks at each end, can be used by two teachers who alternate in the use of the lecture room. This arrangement enables a teacher to set up an experiment which will not be in the way of the other teacher. Separate storage and preparation

rooms prevent overlapping of responsibility for materials and arrangement of supplies.

Although there are relatively few days in Florida when natural light is not sufficient to provide adequate light, careful attention has been given to proper lighting. Classrooms have incandescent lamps mounted in concentric vertical rings which prevent direct light from entering the eyes. Rooms which are used frequently at night are equipped with louvered fluorescent fixtures. Soft interior colors have been chosen to prevent eyestrain, but exterior colors are vivid and gay.

Teachers and pupils alike are even more pleased with the new school than they had anticipated. Teachers agree that the fresh air and exercise students get going to and from classes tends to make pupils more attentive, and yet no longer time is necessary than was required in the congested halls and stairs of old two-story buildings.



View of a typical classroom.

For some 300 Philadelphia, Pa., school pupils television in the home has replaced textbooks in the classroom.

These are students who, because of illness, accident, or some other handicap, are unable to attend class and are enrolled in the Board of Education's Home-School program.

Twenty-seven teachers are assigned to home-school teaching. Each teacher visits the ten or more pupils on her list at their homes and spends from one to two hours weekly with each.

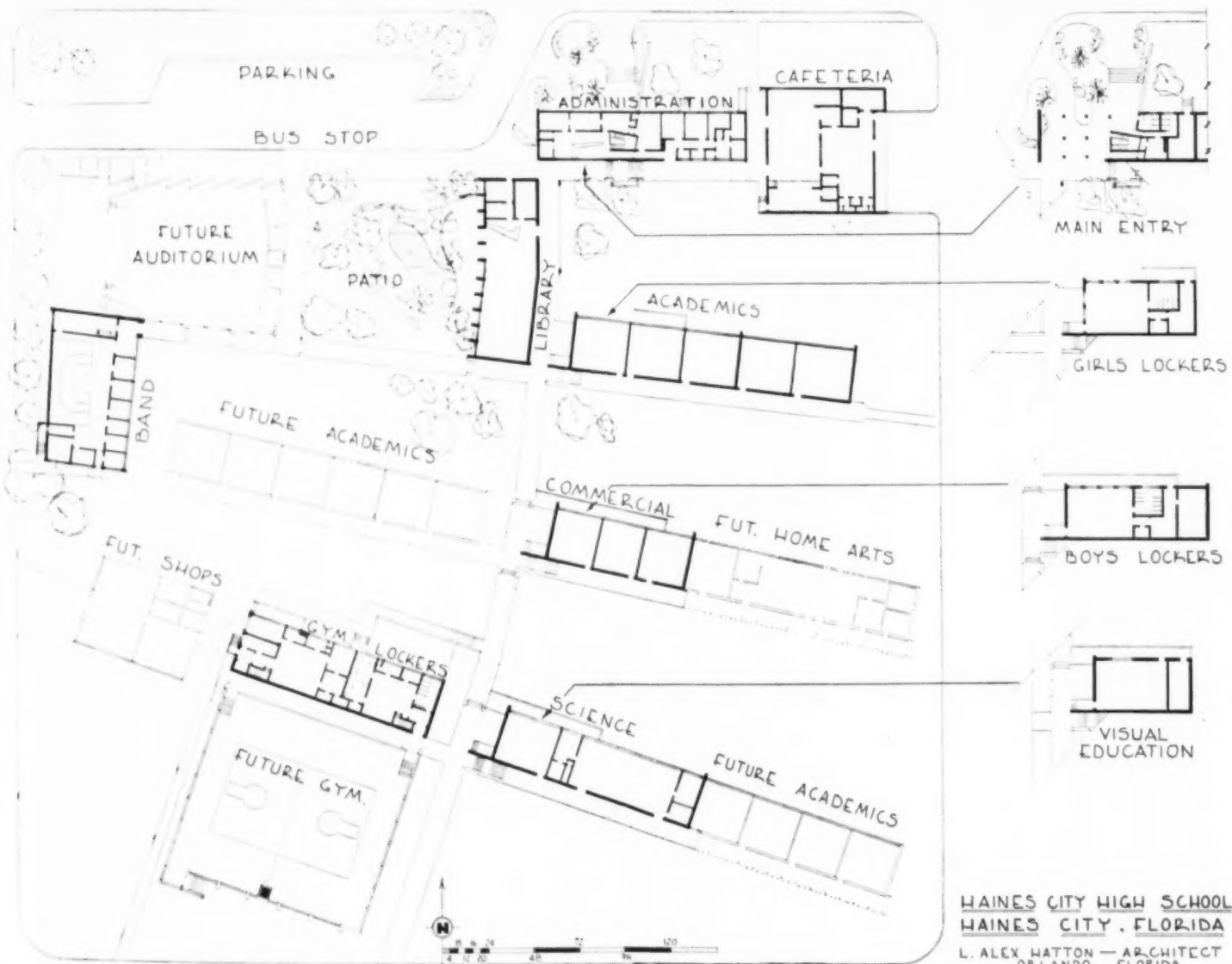
This program was inaugurated by Louis P. Hoyer, Philadelphia school superintendent in 1943.

Teachers in the program were quick to appreciate how valuable television could be to the education of the children under their tutelage. Now they make a regular practice of pegging some of the schoolwork to some of the education TV programs.





Street View, Haines City High School, Haines City, Florida.—L. Alex Hatton, Architect, Orlando, Florida; Perkins & Will, Associate Architects, Chicago.



**HAINES CITY HIGH SCHOOL**  
**HAINES CITY, FLORIDA**  
 L. ALEX HATTON — ARCHITECT  
 ORLANDO, FLORIDA  
 PERKINS & WILL — ASSOC. ARCHITECTS  
 CHICAGO, ILLINOIS



Main Front, Auditorium and Music Hall, Berkeley High School, Berkeley, Calif.

## The Berkeley High School Community Theater

Thomas L. Nelson\*

In the year 1937, when the world still held Herr Hitler in fear and awe and the United States was emerging slowly from the depths of the depression, the Berkeley Board of Education began to discuss the possibility of building a high school theater large enough to accommodate the entire student body, which had had no such accommodation for the better part of two decades.

The effect of the threat of war and of war itself upon building costs and the availability of materials is nicely illustrated in the cost pattern of this building and the length of time its steel framework towered on the Berkeley skyline — mute evidence of the wartime use of building materials.

Original plans, laid down in the fall of 1938, called for an expenditure of \$496,300. By January of 1940 this had been increased to \$650,000. A year and a half later, on October 1, 1941, estimated cost had risen to \$950,000.

In this period of what later turned out to be only gradual increases in cost, contracts were let for \$122,550 for furnishing, fabricating, and erecting structural steel, and \$33,723 for site preparation.

With the coming of war in December, 1941, all thought and hope of immediate completion of the theater vanished. When that hope was

restored in 1946 the estimated cost of completing the theater had risen to \$1,300,000. This figure posed a problem for the board of education, which had something under one million dollars available in its building fund, 30 per cent too little to do the job.

One answer suggested itself — an appeal to

the voters to underwrite a bond issue for the purpose. This appeal was taken — and lost. For the time being, with a structural steel framework on its hands, the board had no place to turn.

In the two years, 1946 to 1948, while the board sought for ways to break this building



The auditorium as seen from the stage.

\*Superintendent of Schools, Berkeley, Calif.



Auditorium looking toward the stage. — Henry H. Gutterson, Architect; Will G. Corlett, Architect and Engineer, Oakland, California.

impasse, the spiral of postwar inflation set in. Completion costs, which had been \$1,300,000 in 1946 became over two million in 1948. By the latter year, however, the building fund had risen to something over one million dollars and the board decided to go ahead and do as much work on the theater as that amount of money would secure. In March of 1948 the board let a contract for \$1,076,450 to complete the exterior of the theater and to complete the west wing — the Little Theater.

For the complete job it had recourse once more to the citizens of Berkeley. This time funds were asked for not only to complete the theater but also to build five elementary schools, certain kindergarten-primary units, and to make large-scale improvements in three junior high schools. And this time the bond issue was successful.

And so, the theater project of 1938, to cost \$496,300, was completed in 1950 at a total construction cost of \$2,294,323 — thanks to a decade of war and inflation.

The completed theater, spacious and lovely, was formally dedicated on Monday, June 5, 1949, with His Excellency, the Honorable Earl Warren, Governor of the state of California, present. The citizens of Berkeley, though well aware of its cost, have given their

enthusiastic approval, and it has already begun to play a major role in the life of the community.

The building is well designed for such a role, being magnificent in size, lovely in coloring, modern in its furnishings, and equipped with the last-minute devices of a technical age.

Its basic composition is steel and reinforced concrete. There are three major divisions: the large circular theater proper, the west wing containing the Little Theater, and the east wing containing the music and drama classrooms and radio departments.

The interior diameter of the main theater is 160 feet, with an orchestra floor of 2406 seats and a balcony of 1091 seats, a total of approximately 3500 seats. The stage is 100 by 55 feet, and the proscenium opening is 50 feet wide and 30 feet high. The orchestra pit, which is raised and lowered by electrically operated screws, accommodates 84 musicians with their instruments. This orchestra pit may also be raised to stage height to enlarge the stage apron.

The theater is equipped with an inter-communication system, heating, ventilating, and public-address systems, spot lights and traveling spots, a projection booth for both

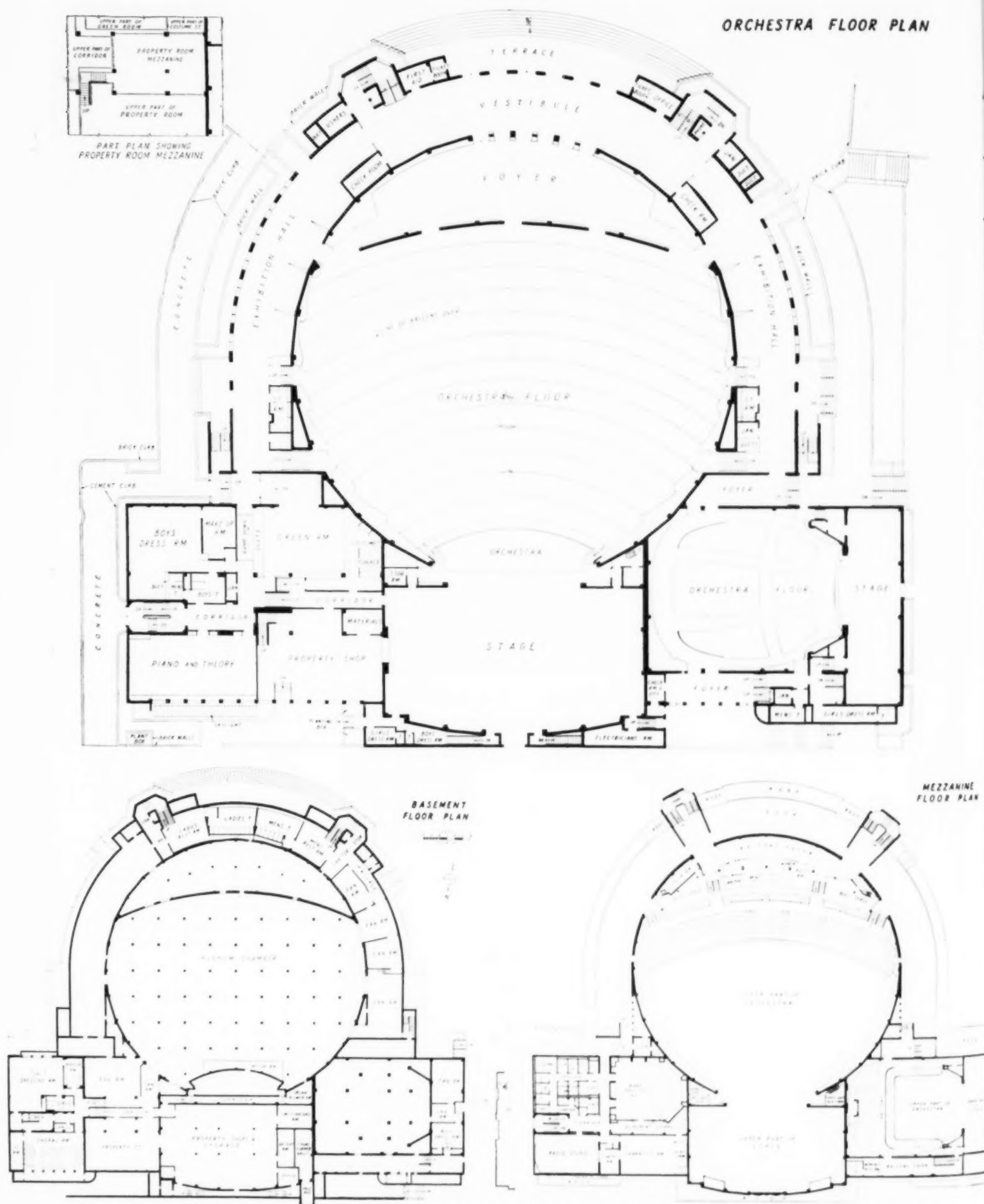
35 and 16mm. projectors, a property shop, property rooms, and dressing rooms.

The Little Theater in the west wing, complete in itself, seats 628. It is used for events that do not call for the facilities of the 3500-seat theater.

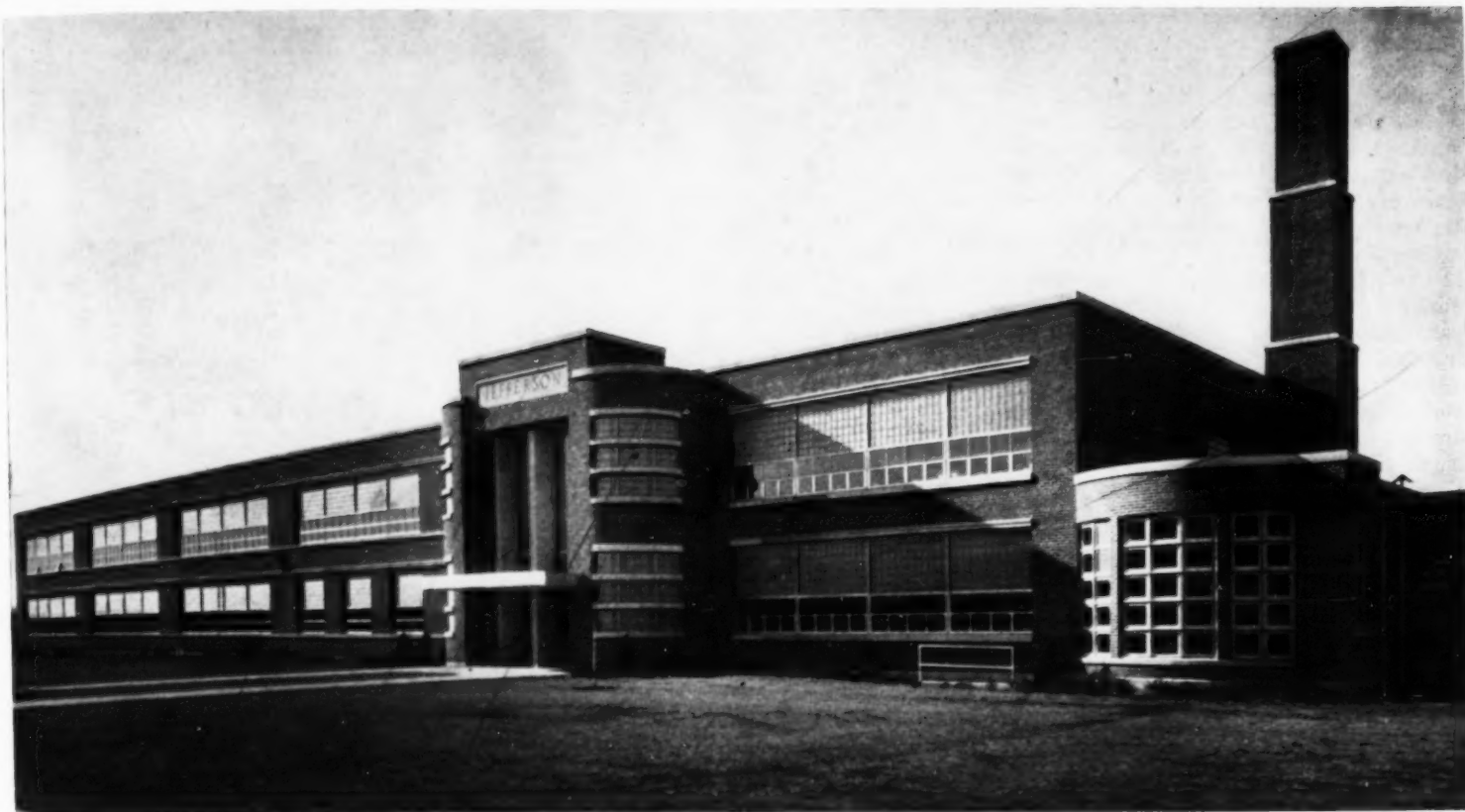
The east wing includes a radio control room, radio and television broadcasting room, a band room for more than 80 musicians, a choral room, a drama room, a piano room, nine practice rooms, and a large room called the "Green Room," designed for collecting and briefing the cast before a performance or as a meeting place after a performance where the cast may meet the "fans."

The Berkeley High School Community Theater, as the name indicates, will serve the community as well as the high school. In commenting on the Theater, Ross Miller, city manager, well stated the measure of its achievement in these terms: "The new Berkeley High School Community Theater is literally the biggest achievement in Berkeley's history. Its completion brings to Berkeley the finest theater in the west . . . a theater, concert hall, and convention hall that is not only 'big' but one that is inspiring, almost beyond belief. It will make our lives more enjoyable and pleasant."





Floor Plans, Auditorium and Music Hall, High School, Berkeley, California. — Henry H. Gutterson, Architect; Will G. Corlett, Architect and Engineer, Oakland, California.



General View, Jefferson Elementary School, Rochester, Minnesota.—Harold H. Crawford and Peter P. Bross, Associate Architects, Rochester, Minnesota.

## Rochester Builds to House a Modern Elementary School Program

*N. Durward Cory\**

Rochester, Minn., the home of the Mayo Clinic, is a modern city of 30,000, a city in which the people desire to have the best possible educational program. The Jefferson Elementary School is the second elementary building to be completed in Rochester in the postwar period.

The Jefferson school is located upon a plot of nearly eight acres in northeast Rochester, an area which is growing rapidly. The building is two stories high, has 17 classrooms, and many special features. The cost of the building including grounds, furniture, landscaping, and architect's fees was \$733,615.37.

One of the outstanding features of the building is the health suite which contains seven small rooms. Health services in the Rochester schools include a complete examination and immunization to all major diseases prior to the entry of children in school as well as a complete program during the school year. Health, dental, and psychiatric consultation are furnished and the suite has been planned in



The auditorium-playroom is frequently used by boy and girl scouts and adult groups.

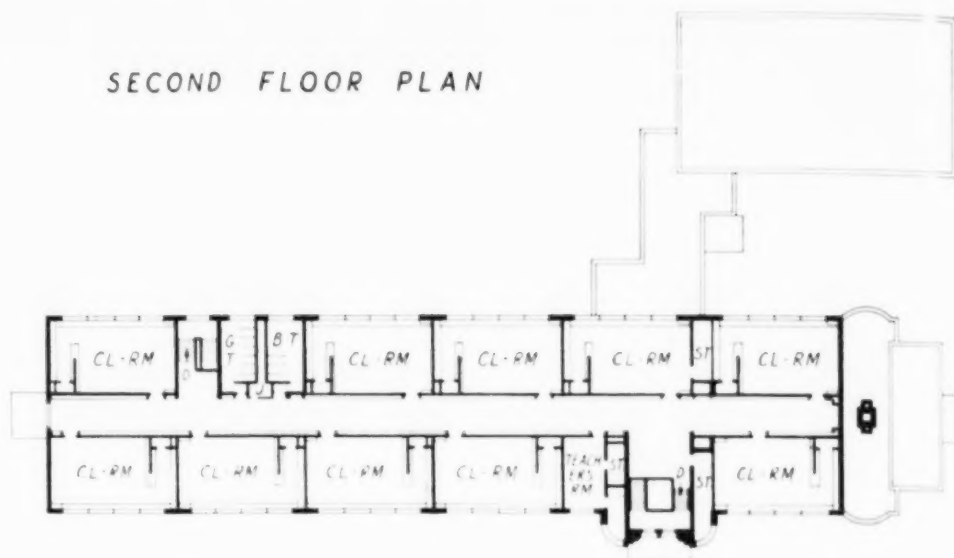
\* Superintendent of Schools, Rochester, Minn.

an effort to provide for a well-rounded health program.

The building also contains a large library, a kitchen, an administrative suite of four rooms, a teachers' rest room, and an auditorium-playroom. In the basement are a children's warming room and furnace and maintenance rooms. Adequate space for storage has been provided throughout the building.

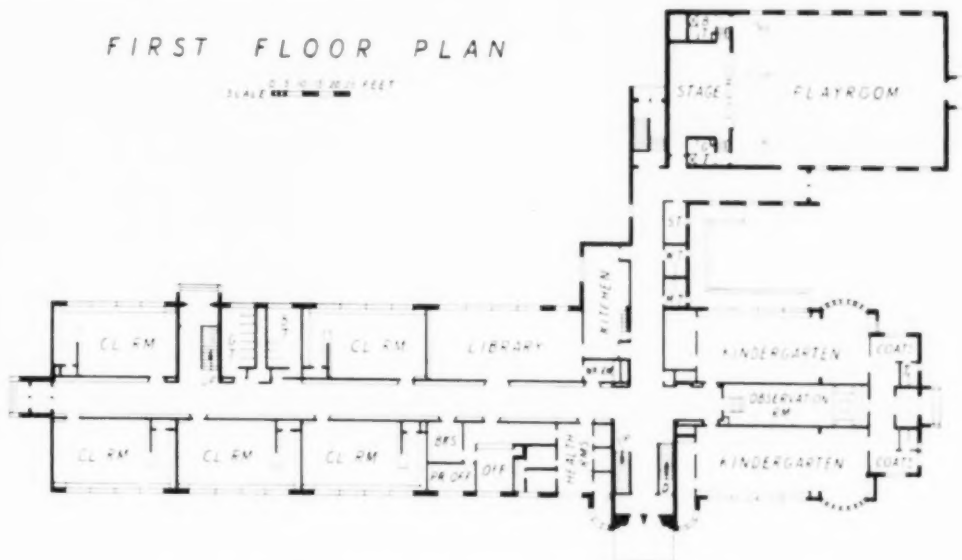
Classrooms for grades one through six are 22 by 40 feet in size. They are featured by a work area in the back of each room where a sink, running water, storage cabinets and drawers, and sufficient work area for work in ceramics, practical arts, or any specialized work program the teacher and pupils may desire have been provided. A bench runs the length of all classrooms under the windows. All the woodwork is blonded oak. The desks are movable with separate desks and chairs in the kindergarten and grades one through

SECOND FLOOR PLAN



FIRST FLOOR PLAN

SCALE 0 5 10 20 FEET



The new Jefferson Elementary School, Rochester, Minnesota, is laid out for independent use of the cafeteria-playroom and kindergartens.

four. Combination desks and chairs, blond in color, have been provided in grades five and six.

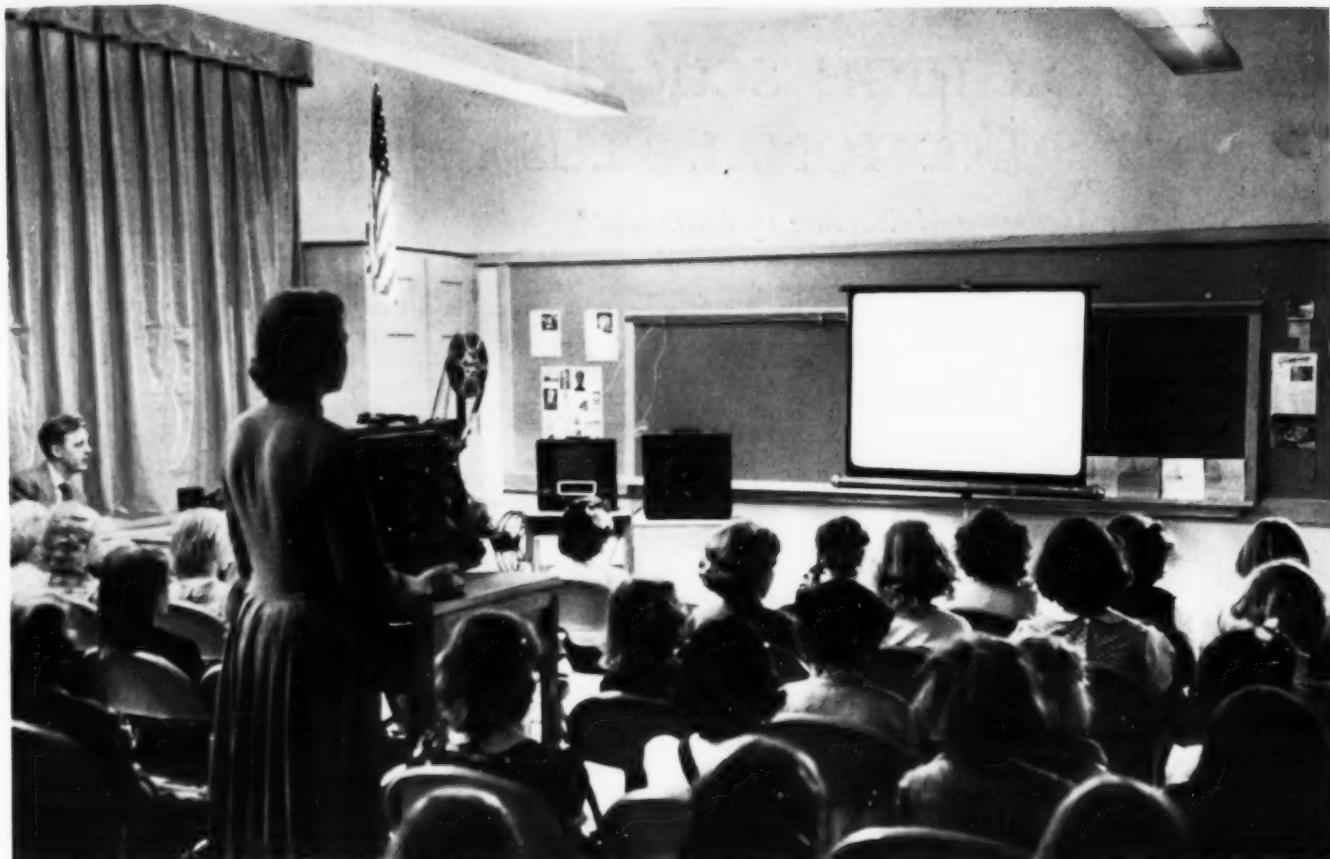
The Jefferson school is considered to be the very latest in the use of color schemes. Two or more pastel colors have been blended in each room. Different combinations of colors have been used in the various rooms and hallways. All ceilings have been provided with acoustical tile and all rooms have fluorescent lighting fixtures.

Kindergarten rooms, 22 by 56 feet in size, have been provided with a sliding partition which can be used to divide each room into areas of 22 by 40 feet and 22 by 16 feet when desired. The smaller areas may then be used as waiting rooms or as meeting rooms for small groups. Ceiling-to-floor glass outside walls are provided in the alcoves of the kindergarten rooms. An observation room four steps above the main floor level has been arranged so that school visitors may view and study kindergarten classes. One-way glass has been used in the observation room in order that visitors



Left: the kindergarten suite has heated floors and is large enough for a well rounded activity program. Right: the central library is a beautifully appointed room with space for books and other visual materials.





The visual education room is equipped with a modern sound projector and slide projecting machines.

may see the activities in the classrooms without being seen by the children. A kitchenette in the kindergarten wing may be used either for pupil activities or by adult groups.

The audio-visual education room is provided with gray darkening shades and is equipped with radio, sound projector, tri-purpose projector, screens, chairs, and other equipment necessary for a complete audio-visual program.

The central library is 22 by 54 feet in size and contains shelving for more than 10,000 books. A small workroom, with a sink and running water, is located adjacent to the library. Tables and furniture in the library as well as much of the furniture in the school system were made in a cabinet shop operated by mechanics employed as a division of the maintenance staff of the schools.

A transparent window strip 3 feet wide is

provided in each classroom, with the 5 foot area above the window strip, being made of translucent glass blocks. The aluminum sash windows without exception open outward.

The auditorium-playroom is 50 by 90 feet and has a 23 feet high ceiling. The stage measures 18 by 24 feet and shower rooms have been provided at each side of the stage.

Provision has been made to add classrooms

(Concluded on page 95)



Left: the health unit is fully equipped for routine examinations and for emergency cases. Right: a typical classroom showing the built-in cabinets and work spaces.

## A JUNIOR HIGH SCHOOL THAT'S FUNCTIONAL PLUS

*Charles C. Mason\* and Clarence F. Mantooth\*\**

The Tulsa, Okla., public schools are planning their second building program since World War II ended in 1945.

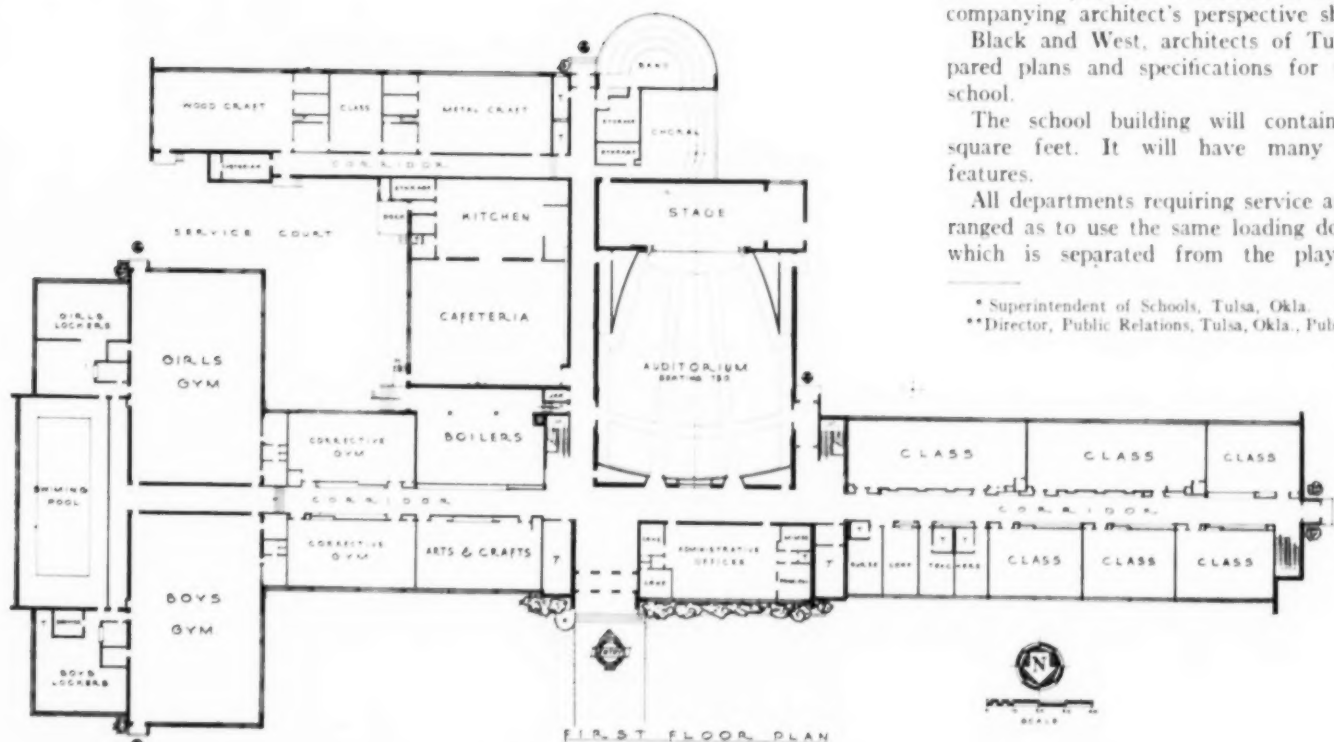
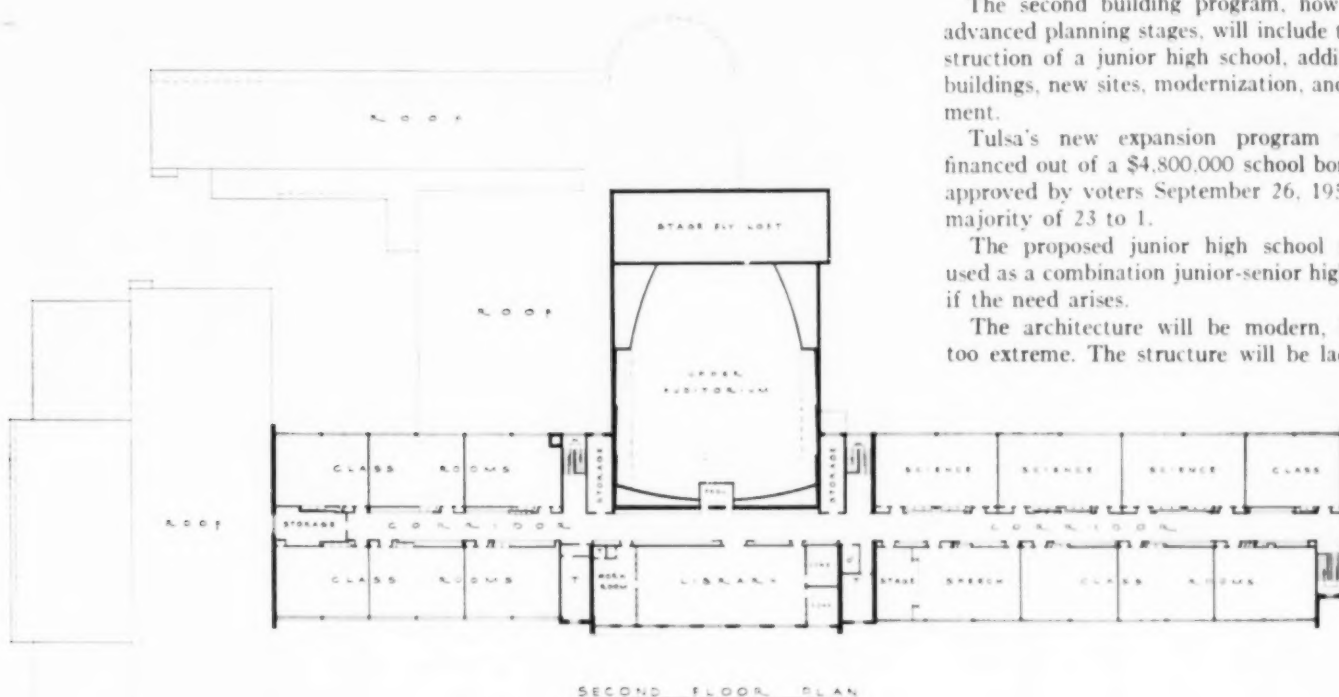
The first school expansion and modernization program in Tulsa was begun in 1946 after \$4,500,000 in bonds were approved by voters in December, 1945. This money has been spent on sites, portable and permanent buildings, additions to schools and sites, equipment and modernization.

The second building program, now in the advanced planning stages, will include the construction of a junior high school, additions to buildings, new sites, modernization, and equipment.

Tulsa's new expansion program will be financed out of a \$4,800,000 school bond issue approved by voters September 26, 1950, by a majority of 23 to 1.

The proposed junior high school may be used as a combination junior-senior high school if the need arises.

The architecture will be modern, but not too extreme. The structure will be lacking in



ornaments, yet will be attractive, as the accompanying architect's perspective shows.

Black and West, architects of Tulsa, prepared plans and specifications for the new school.

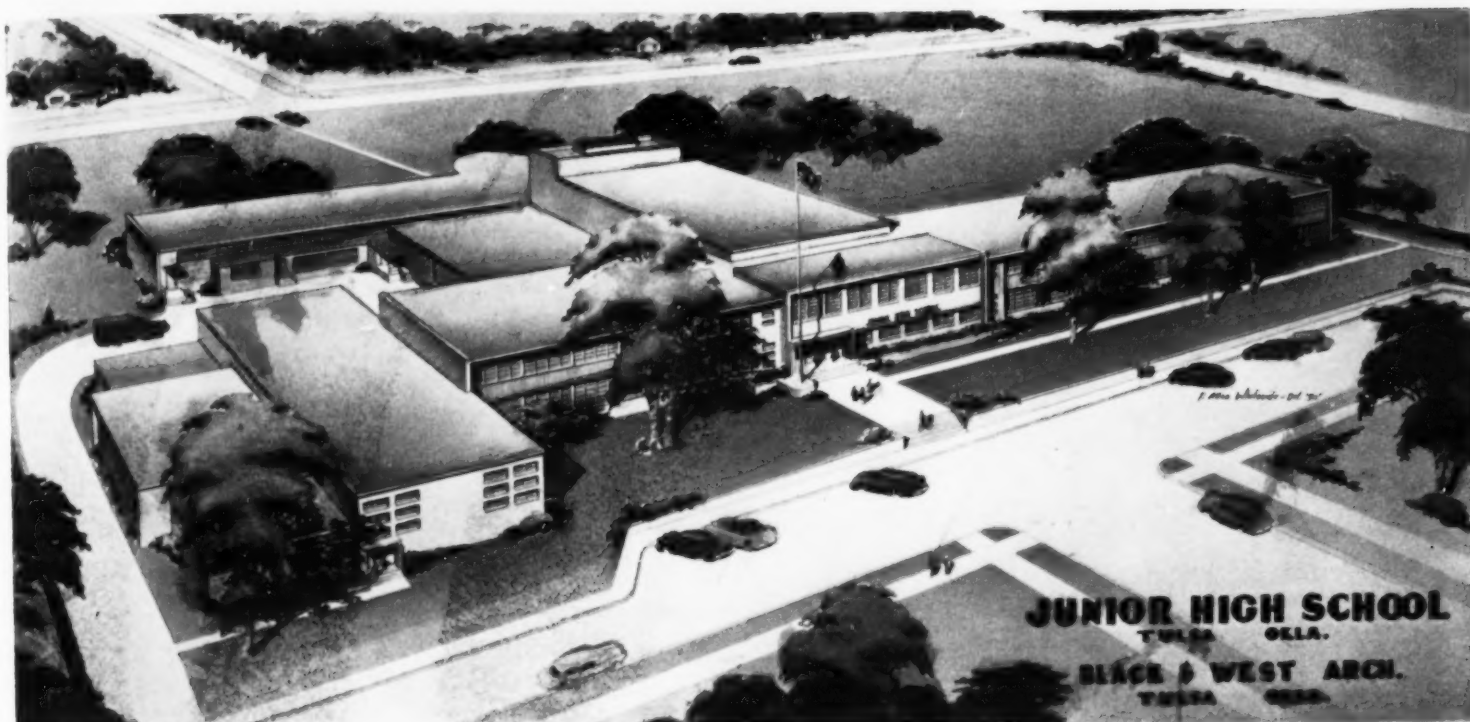
The school building will contain 95,000 square feet. It will have many unusual features.

All departments requiring service are so arranged as to use the same loading dock area, which is separated from the playgrounds.

\* Superintendent of Schools, Tulsa, Okla.

\*\* Director, Public Relations, Tulsa, Okla., Public Schools

Floor Plans, Junior High School, Tulsa, Oklahoma. — Black and West, Architects, Tulsa, Oklahoma.



The new Junior High School, Tulsa, Oklahoma, has been planned for community use.

These departments include shops, cafeteria, boiler room, and janitor's supply room.

The centrally located auditorium may be closed off from the rest of the building for public functions, with the exception of the front entrance, central corridor, and men's and women's rest rooms. The cafeteria, or a combination of the auditorium and cafeteria, may be isolated in the same manner.

The shops and music rooms are separated from the remainder of the classrooms to prevent noise from interfering with other activities. Both boys' and girls' toilets are available to these rooms, eliminating the necessity of students' walking to the centrally located rest rooms.

The first floor will include four standard classrooms, a physical education department, a three-room industrial-arts department, vocal and instrumental music rooms, an arts and crafts room, auditorium, two homemaking laboratories, cafeteria and kitchen, offices, faculty conference room, nurse's room, rest rooms, and a mechanical plant.

The second floor includes a centrally located library, a speech room, a typing room, a science department composed of three rooms, and nine standard classrooms.

The main north entrance leads directly to the central office, counselors' and principal's offices, faculty conference room, nurse's room and rest rooms.

On the extreme east of the main wing will be a swimming pool, 20 by 60 feet, in a room 34 by 80 feet. The pool is accessible from both boys' and girls' locker and shower rooms located at either end.

Teacher control points are set up at the entrances to the locker and shower rooms from both the swimming pool and the two adjoining physical education rooms. The main

physical education rooms are each 50 by 80 feet.

Two corrective rooms, 26 by 48 feet, adjacent to the main physical education rooms and instructors' offices, complete this department. The corrective rooms will be equipped with necessary corrective devices and instruments. The rooms may be converted into standard classrooms if desired.

The three-unit industrial-arts department is located immediately back of the physical education department and across the service court. This wing will be 30 by 152 feet. It will include a wood and graphic-arts shop and a metal and electricity shop connected by a room designed for either class discussion or audio-visual instruction. Storage space for materials and supplies is provided on balconies.

The two-room music department is located directly behind the stage and connects to the stage. The vocal music room has raised tiered seats and ample storage space. The instrumental music room is directly behind the vocal music room, and has close access to the stage. This room has a raised semi-circular tiered floor, and the rear wall of the room is semicircular with windows. A large instrument storage space is provided.

The music rooms may be used for dressing purposes for stage performances.

All entrances to the auditorium are at corridor level, with the slope in the seating area entirely within the auditorium. The rear section of seats is elevated to conform to the slope of the floor. The room will have no windows, and will be mechanically ventilated. A stagecraft room at one end of the stage has an outside entrance for convenience in receiving materials and equipment.

Each of the two homemaking laboratories will be equipped with unit kitchens.

The centrally located cafeteria will seat 220. Adjoining will be the modern kitchen, with all stainless steel equipment. At one side will be a conveyor belt for transporting dishes to the mechanical dishwasher. The kitchen range vent fan will have its own tempered outside air supply, thus avoiding pulling air from the dining room.

Other features include a dressing room for cafeteria employees, a manager's office, storage room for supplies, etc. The office for the cafeteria manager is located where she may observe food preparation and serving and check incoming supplies.

The library, 30 by 90 feet, is centrally located on the second floor. A book repair room and conference room are planned. The speech room is equipped with a small stage. The science department includes three basic science rooms.

The building will have a central steam plant and a unit heating and ventilating system.

Reinforced concrete will be used for footings and foundation walls. Light colored face brick is specified for exterior walls, and corrugated asbestos panels for all spandrel walls between first and second story windows. The building will have structural steel frame, with trusses over auditorium.

Specifications call for bar joist construction with a concrete slab overlay. Beneath will be acoustical material secured to fireproof sheetrock. The shops and physical education rooms will have poured gypsum roof with form board of acoustical material. Other roofs will be of standard poured gypsum on sheetrock.

All ceilings will be of acoustical material.

The building will have poured concrete floors, with maple flooring overlay in the

(Concluded on page 97)



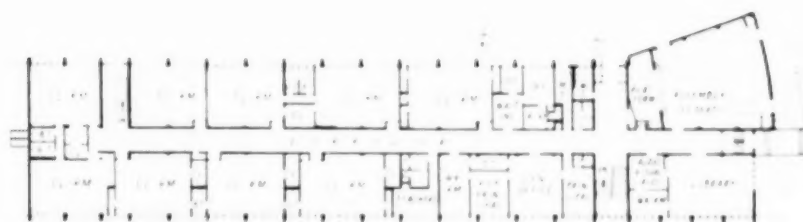


Architect's Perspective. Miraloma Elementary School. San Francisco, California. — Masten & Hurd, Architects, San Francisco.

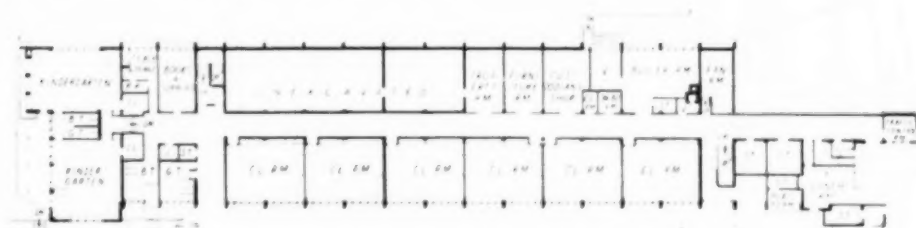
## The Art Commission Looks at the New San Francisco Schools

*N. L. Engelhardt, Sr.\**

The San Francisco Municipal Art Commission is playing an important part in co-operation with the San Francisco Board of Education in their review of the plans of all new schools now being advanced through the 1949-54 school bond issue of \$48,890,000. The commission acts through its Committee on Architecture, of which Architect Ernest Born is chairman, and the other members who are Architect Francis McCarthy and Landscape Architect Douglas Baylis. These gentlemen have been giving many hours of professional time in discussing with the architects of individual schools the designs of their buildings and their appropriateness in the total city development, as well as in the



SECOND FLOOR PLAN



FIRST FLOOR PLAN

Floor Plans, Miraloma Elementary School, San Francisco, California.

neighborhoods in which they are to be located.

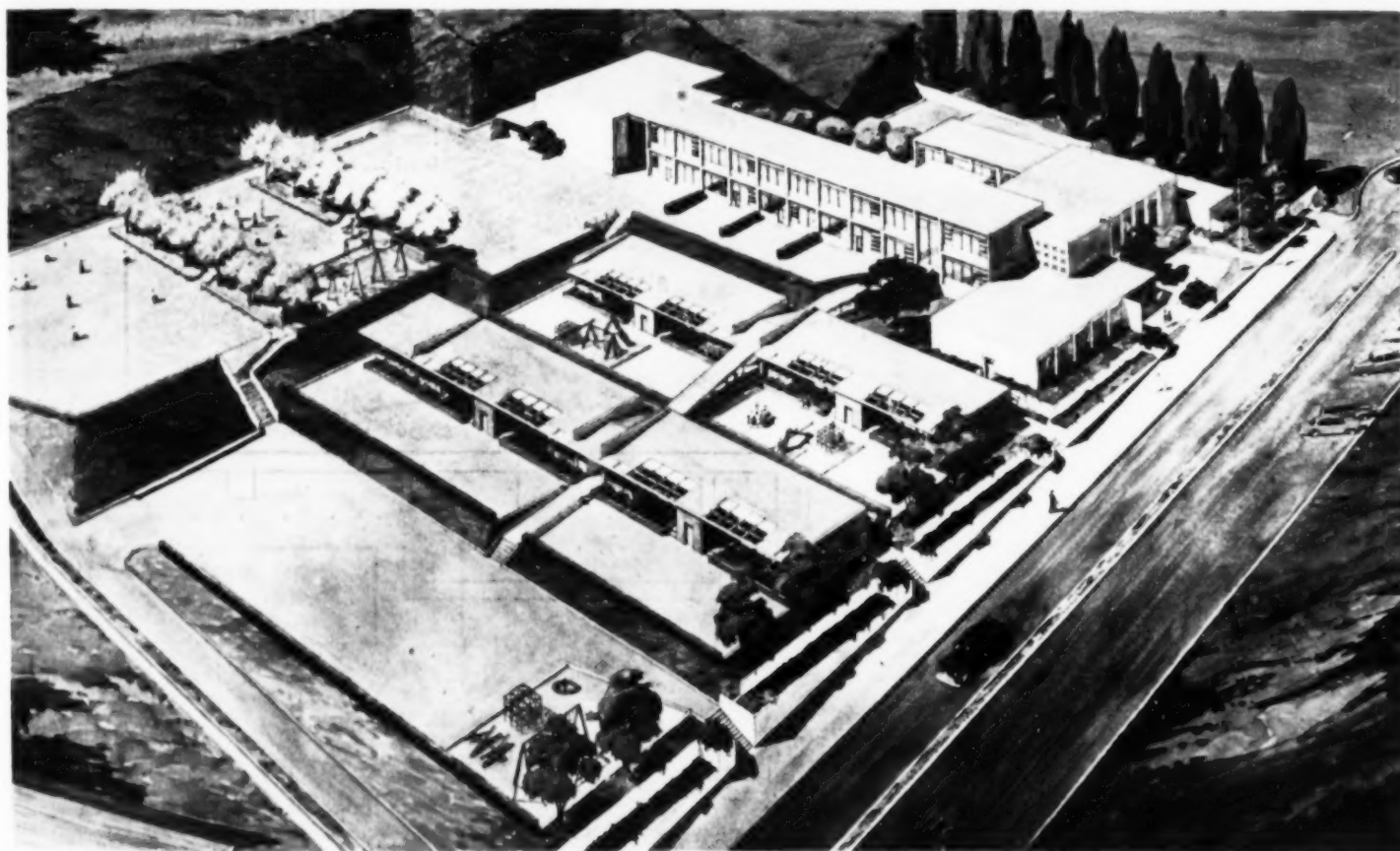
Chairman Born, at a recent meeting of the board of education, expressed appreciation on behalf of the Art Commission for the splendid co-operation which the board and its staff have given in developing with the art commission certain phases of the school building program. He stated that in his opinion the group of buildings which would be constructed would be unsurpassed in the United States.

President Levit, of the board of education, commended Mr. Born and his colleagues for the assistance they were rendering and expressed appreciation to the art commission

\*Engelhardt, Engelhardt and Leggett, Educational Consultants, New York City.



Perspective, Fremont Elementary School, San Francisco, California. — Hertzka & Knowles, Architects, San Francisco.

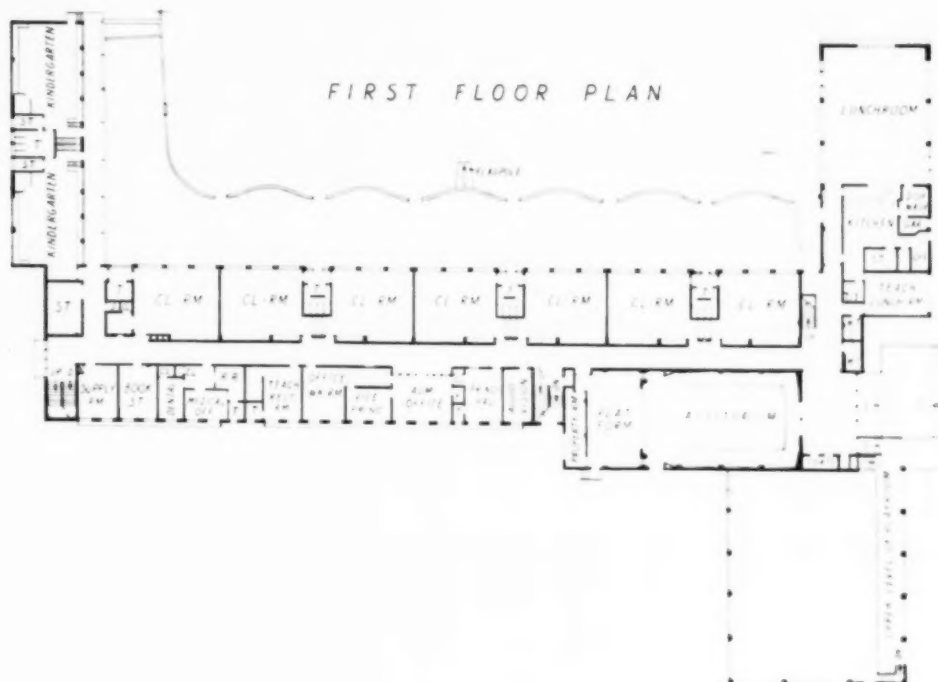


Perspective, Sunnydale Elementary School, San Francisco, California. — Ambrose & Spencer, Architects; Talley & Lee, Associates, San Francisco.

for their services in connection with the school building program.

The architectural committee begins its work with project architects at the early stage of planning, and continues to the final phase of acceptance of the plans by the board of education. The perspectives are reviewed at the preliminary planning stage, as well as site plans and their co-ordination with the projects of other city departments. Frequent visits are had with the architects and final summations and approvals are made as the final working drawings are finished and presented to the city architect's office and the board of education for their review and acceptance.

After reviewing these architectural designs, the architectural committee reports in writ-

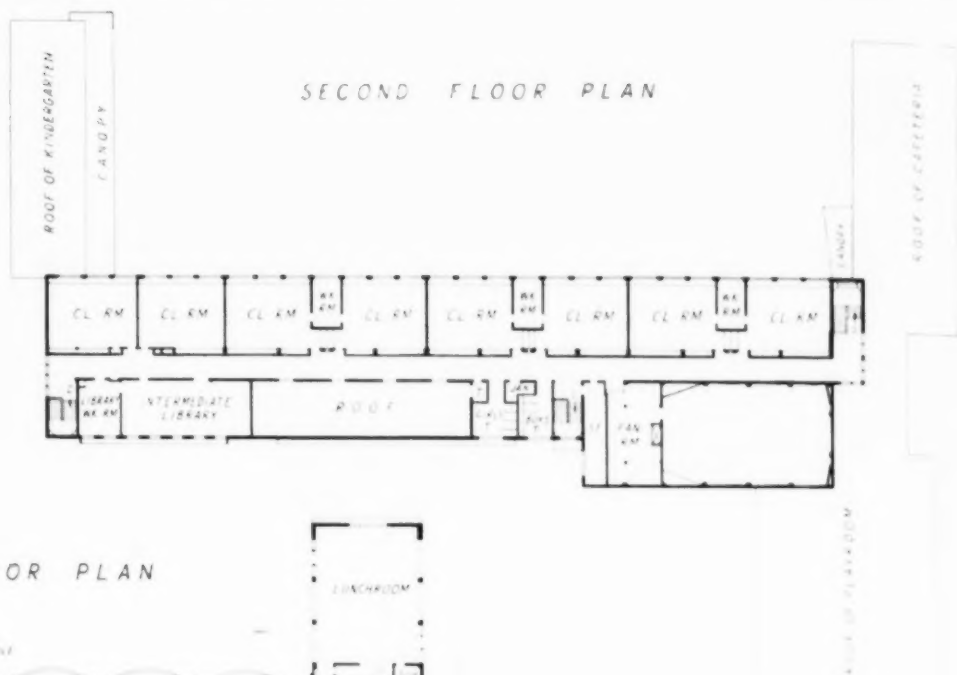


ing to the art commission itself which, at its regular meeting, gives the official stamp to the work of its hardworking trio, Born, McCarthy, and Baylis. The final comments on the new buildings are then officially transmitted to the board of education for its records.

The project architects who designed the new San Francisco schools have reason to be proud of the approval the art commission has given to their work. The official records show the art commission's comments as follows. They indicate the attention given to details as well as to the over-all planning.

#### Miraloma Elementary School—Project No. 3, Masten & Hurd, Architects

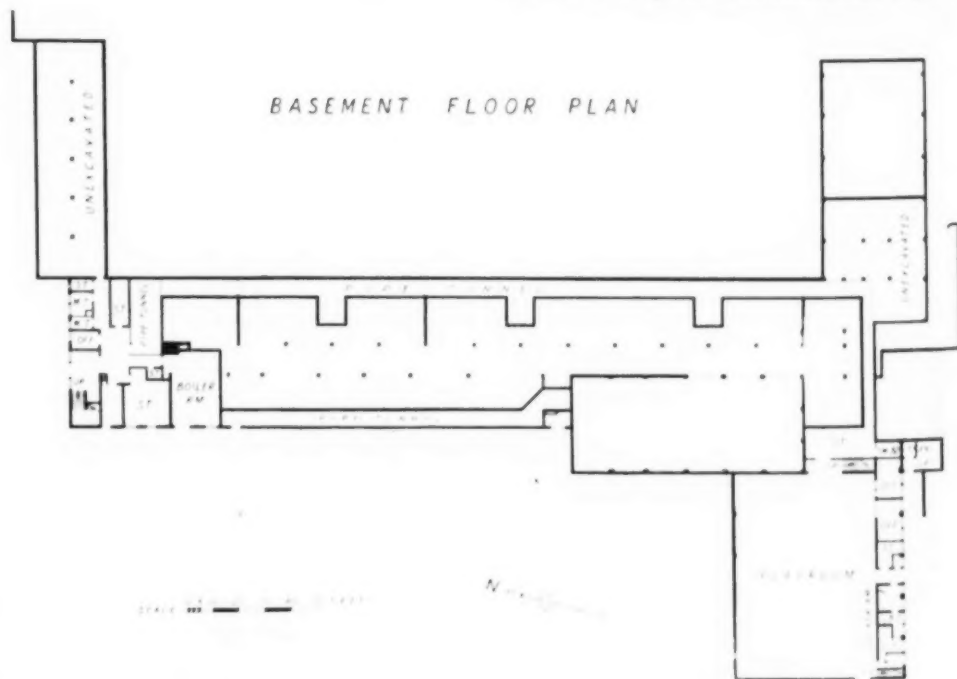
**Location**—The school is bounded on the north by Omar Way, on the east by Rockdale Drive (closed) and Recreation Commission Playground, on the south by Avoca Alley, and on the west by Myra Way. The site slopes downward from Myra Way to the east with a maximum difference of elevation of approximately 50 feet in a distance diagonally across the block of approximately 400 feet. The site occurs on the west slope



of Mount Davidson and commands a superb view of the city. The neighborhood is a residential one with small homes in the immediate vicinity.

**Proposal**—To house facilities for two kindergartens, six intermediate grade classrooms, a special classroom, and eight primary classrooms, a small auditorium, library, offices, lunchroom with kitchen, and large playroom, all with necessary supplementary and utilities spaces.

**Planning Problem**—The plan of the building is arranged as an "L" with the north-south wing parallel to Myra Way containing the principal classrooms in two stories and the shorter wing on Omar Way containing the lunchroom and playroom with various facilities for these two spaces. The auditorium is placed



Floor Plans, Fremont Elementary School, San Francisco, California.





### PLOT PLAN

Main Floor Plan of the Sunnydale Elementary School, San Francisco, showing the arrangement of the play areas.

in the heel of the "L." and the two kindergartens at the south. This arrangement places the main approach to the school on the line of principal traffic permitting direct access to the offices. Some protection from northwest winds is also afforded by this arrangement of the "L." Like all good plans, now that the solution is established, the organization of the structure on the site and the organization of the plan seem so obvious and right as to suggest that anyone might have done it. This is one of these cruel deceptions about any high form of art.

**Elevations**—The excellent organization of the plan is admirably expressed in the fine elevations. The committee finds the structural technique employed for the building to be extremely interesting. The large structural framework back of which the sash and glazing is carried is a logical utilitarian device which has been given careful and thorough study as a

design form and promises to be a work of definite architectural distinction. This structural form has been experimented with extensively on the Continent and given some attention in this country. It has now gone beyond the experimental stages and promises to have wide application to architectural structures in various fields. The form is flexible and its adaptation to the school program, we view with great favor. It does, however, require sensitive design appreciation and careful vigilance for excellence of proportion because the aesthetics of this structural method taken as a design form have not been completely investigated. What 25 years ago was simple engineering the architect is promoting to a position with recognizable aesthetic interest and value.

Here the features of composition and design seem to have been happily married. The committee feels that the design, promising to be such an outstanding one, should be foiled by

fine landscaping treatment, and urge that the architects push the interesting indications of landscape treatment further for more definite expression and clarification.

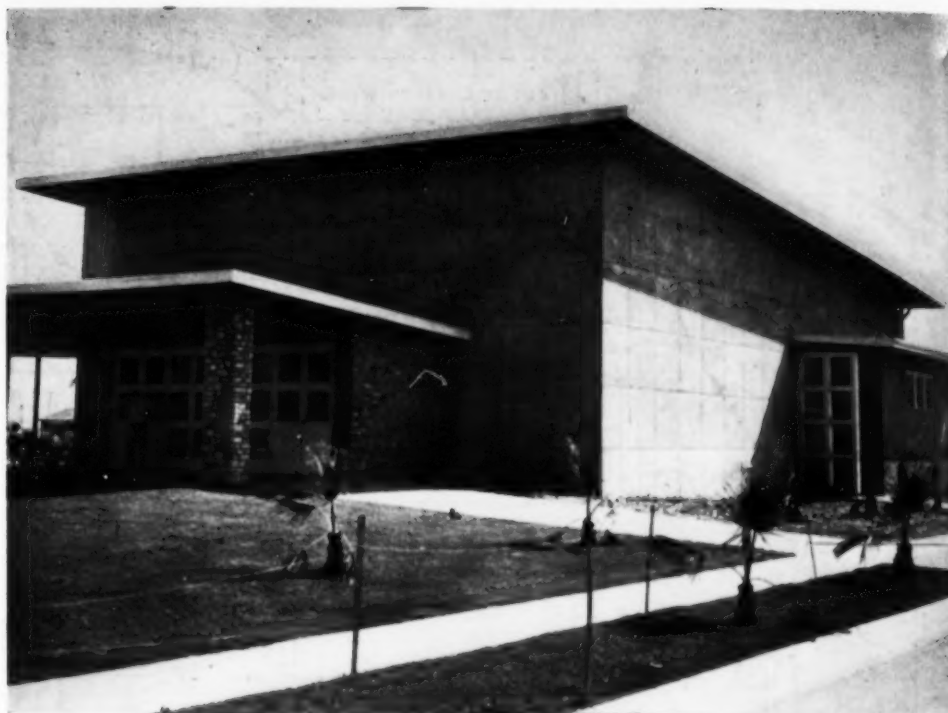
The use of the link belt fence is an economical device for separation of certain spaces and an entirely appropriate form for many uses. However, the use of opaque walls often gives finer architectural character and definitely aids the landscape designer in giving strong architectural expression to his work, and the possibility of such walls should not be overlooked. The importance of an integrated landscape plan is viewed by the art commission as being on a level with a functional solution of the actual intramural architectural planning. It is the synthesis of structure, land, planting, and sky that is the foundation of transforming mere structure into a total architecture.

The committee on architecture has watched this project evolve through several earlier

(Concluded on page 94)

# Long Beach Lunchroom- Assembly Units

*Arthur A. Knoll\**



The lunchroom-assembly units in Long Beach, California, are finished in harmony with the classroom buildings which they serve.

As a somewhat new departure, the Long Beach Unified School District has undertaken the construction of some 30 Lunchroom-Assembly units in elementary schools. These buildings provide for the lunchroom facility in one end and for assembly in the other. The assembly rooms afford seating of 150, 200, or 250 pupils, as the sizes of the schools dictate. It is felt that such capacities afford adequate seating for any groups of classes that have kindred interests.

As shown on the plan, the joining of the

\*Business Manager, Long Beach Public Schools, Long Beach, Calif.

two units makes possible the enlargement of the cafeteria or the assembly facilities by opening the large door at the rear of the platform. The cafeteria lunchroom floor is on the same level with the platform for the assembly room.

The seating in the assembly room is on a sloped floor, affording opportunity for all the occupants of the assembly room to see the performers on the platform without the neck stretching that is required when the floor is level. The 19½-foot depth of the stage back from the proscenium arch, with the additional width of the apron, affords an ample area on which large numbers of persons can participate

in activities. Adequate storage is provided for musical instruments and for other stage supplies.

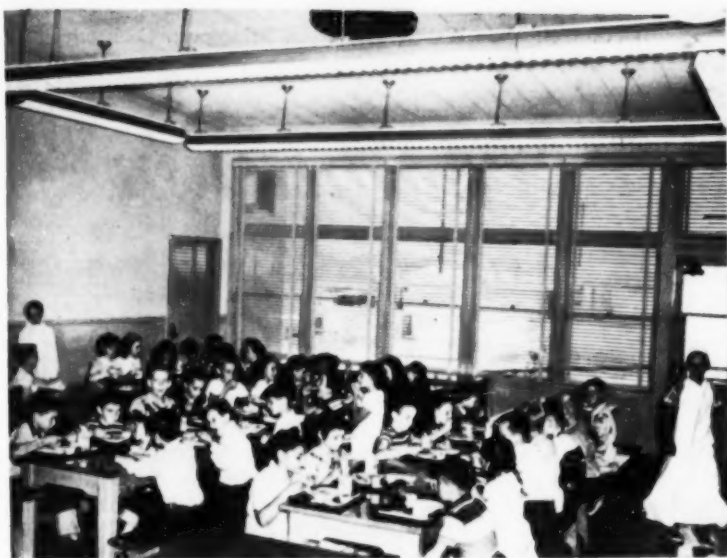
Because of the preparation and shipping of all foods to the Long Beach school lunchrooms from a central kitchen, the kitchen on the plan will probably appear small and inadequate for the usual situation in which food is prepared at the individual cafeterias.

The teachers' dining room gives an opportunity for relaxation on the part of teachers during their lunch period.

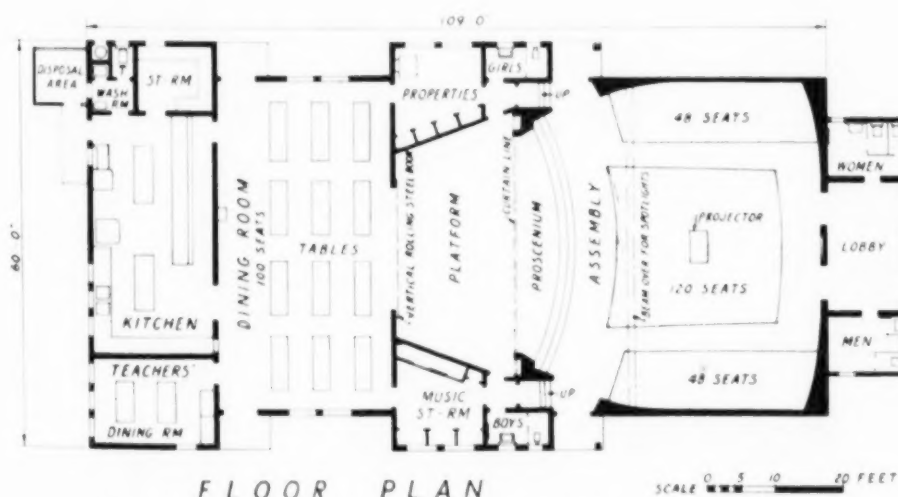
Noise is eliminated and proper hearing conditions are provided by the liberal use of acoustical materials throughout the building.



The assembly rooms seat approximately 150 children which is the typical maximum group for music, visual instruction, and dramatizations.



Upper Left: the mild climate of Long Beach makes it possible for children to assemble outside the lunchrooms. Upper Right: cafeteria-balanced lunches are served. The serving line is inside the kitchen proper. Lower Left: the tables and benches are of the substantial type attractively painted. Lower Right: view of dining room through stage showing steel door raised.



FLOOR PLAN

The lunch-assembly buildings, Long Beach, California, are self contained and useful for community as well as pupil use.

There are no windows in the assembly portion. Proper air is assured by forced ventilation.

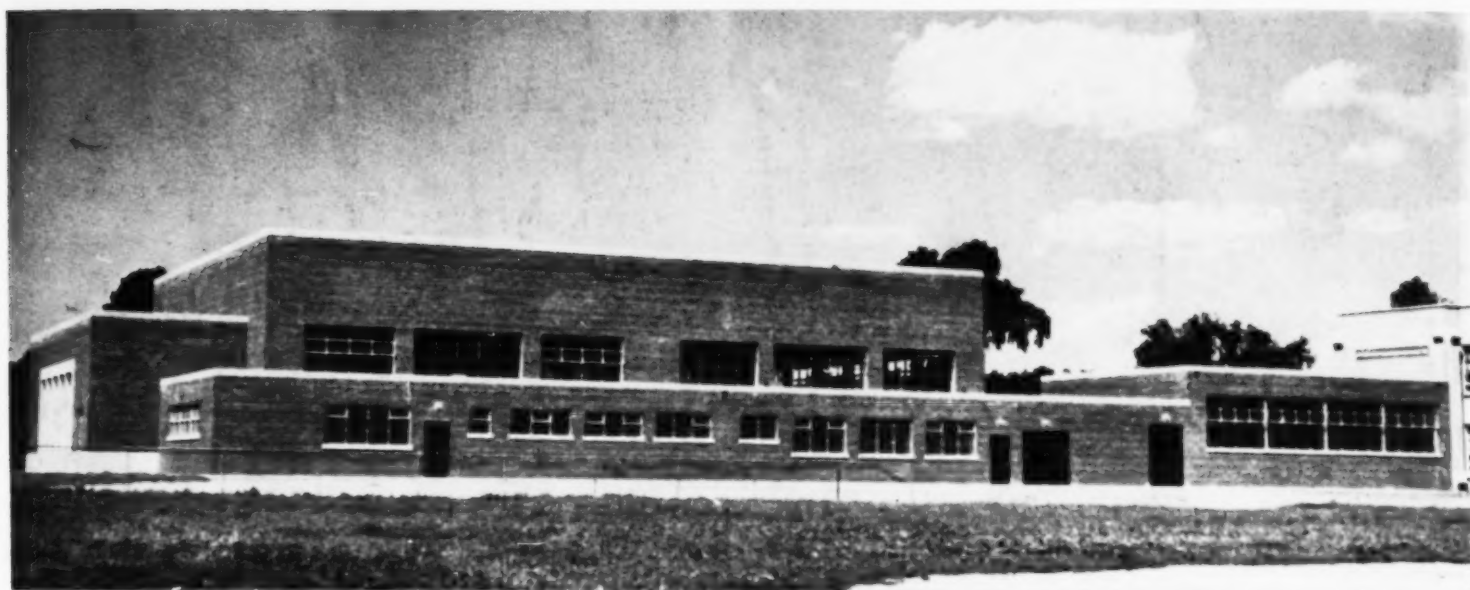
A number of these units have already been completed and are in service. The personnel at the schools have been highly pleased and are most enthusiastic in their praise of them.

#### ARCHITECTURAL EXHIBIT AT ATLANTIC CITY

An architectural exhibit of school buildings will be held in connection with the annual convention of the American Association of School Administrators, in Atlantic City, N. J., February 17-22, 1951.

It is expected that the thousands of school administrators who will attend this largest educational meeting of the year, will be especially interested in designs for low-cost buildings and for rural locations. Architects are invited to submit exhibits of school buildings. Inquiries should be sent to Dr. Shirley Cooper, 1201—16th Street, N.W., Washington 6, D. C.





General View, Stratford High School Gymnasium, Stratford, Connecticut.— C. Wellington Walker, Architect, Bridgeport, Connecticut.

## Stratford Builds a Gymnasium

Charles E. Chaffee, Ed.D.\*

Stratford is a New England residential town of 33,660 population. It is bounded on the south by Long Island Sound, east by the Housatonic River, west by the city of Bridgeport, and the north section of town is cut through by the famous Merritt Parkway. The population of the town has increased about 50 per cent since 1940. As a result, there has been and is a continuous demand to build additional school facilities.

The Stratford High School, located in the center of town, has been built in various sections or additions since the early 1920's. This building contains 53 classrooms, a shop unit of seven rooms, a cafeteria, numerous special service rooms, and a combination auditorium-gymnasium, called "The Box," seating 450 people.

The first section of this building was constructed in 1923 containing 14 rooms and this auditorium-gymnasium. By 1925 the gymnasium was considered inadequate and the students in their school paper, "The Clarion," began to demand a new gymnasium. This clamor for a new gymnasium went on periodically for over 20 years. Finally, by 1946 the town fathers decided to do something to correct the bad situation. A gymnasium building committee was formed and plans were developed. As a result, the fine new gymnasium illustrated here was completed during the past summer and the high school took over when school opened in September, 1950.

### The Floor Plan and Educational Uses

This gymnasium was designed to provide a sound health and physical education program for the 1450 high school boys and girls, to

provide facilities for football, basketball, and baseball teams, and to provide a basketball court for public exhibitions by the school and the community.

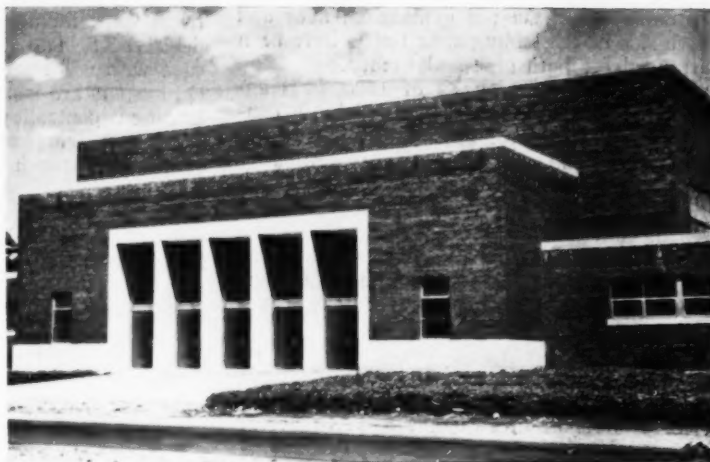
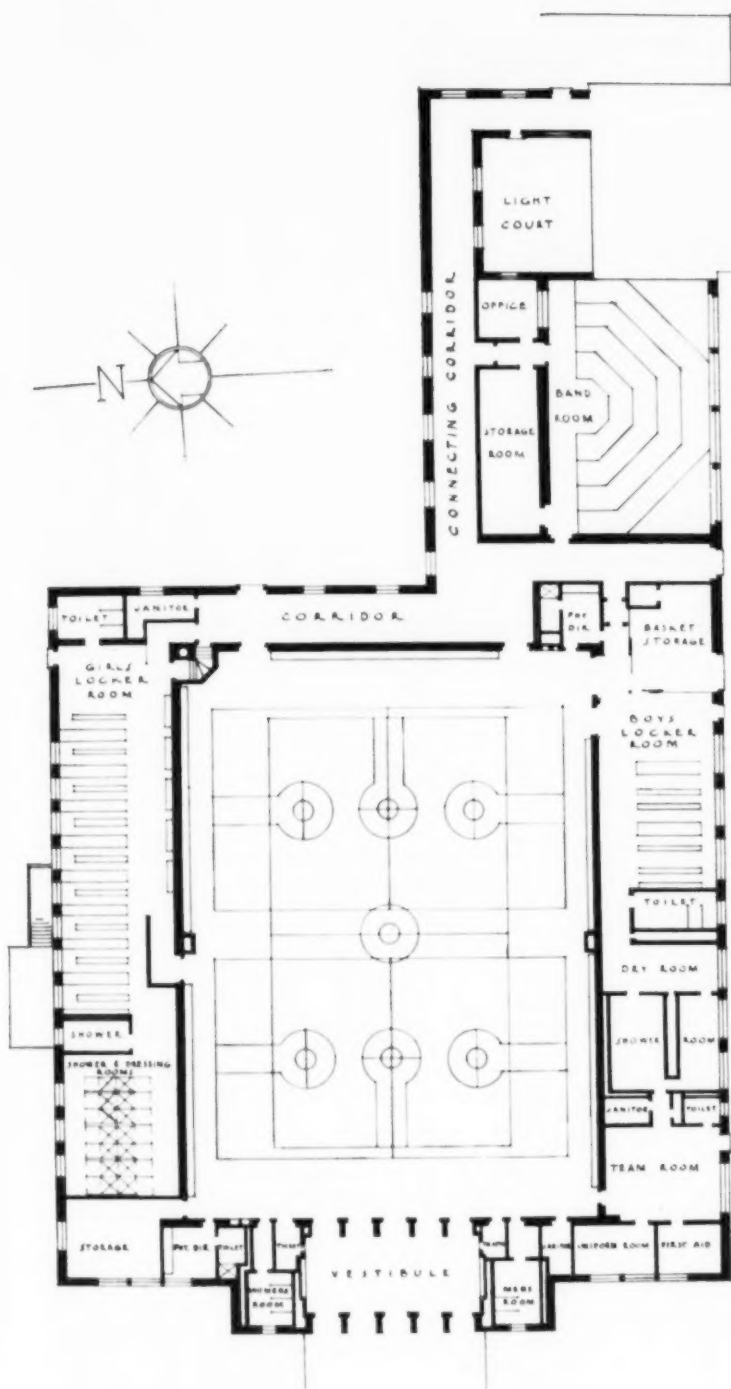
The gymnasium floor proper has a basketball court 50 by 90 feet, with seating capacity of 1500 provided by folding bleachers. For physical education classes, folding doors cut

the large gymnasium floor into separate areas for boys and for girls. Each half of the floor, for physical education, has a basketball court 42 by 74 feet, swinging ropes, layouts for two volleyball and badminton courts, horizontal bars, and stall bars. Other gymnasium equipment includes ping-pong tables and mats of various sizes.



A corner of the main gymnasium showing the finish of the ceiling with countersunk light and ventilating fixtures.

\*Superintendent of Public Schools, Stratford, Conn.



The entrance is dignified by the sparing use of limestone, glass block, and oak.



A corner of the instrumental practice room.

Directly off each half of the floor is an office for the instructor, storage space, and a private toilet and shower. Ample *shower and locker rooms* are equipped for both boys and girls. There are 765 individual lockers on the girls' side and 720 individual wire baskets on the boys' side, each equipped with a master-keyed combination lock. This arrangement provides an individual locker or wire basket for gym clothes for every boy and girl in the school. Each dressing room is equipped with 50 full length lockers for street clothes in order to accommodate a maximum class size of 50 pupils.

The girls' side has both private and gang showers. Electric hair drying units are installed for the girls. The lockers are especially designed to fit the needs of the local school. There are 51 units of lockers arranged back to back. Each unit includes one full

length locker 12 by 60 inches, for street clothes and 15, one-third length lockers 9 by 20 inches, for gymnasium suits and shoes. This allows for 15 classes a week, each with two periods a week, since there are five days a week, with six periods each day, or a total of 30 periods each week.

The boys' side uses the wire basket system for gymnasium suits and shoes for each boy. The baskets are mounted on rubber wheeled basket trucks and kept in a separate wire caged-off room. This arrangement is used so that this area may be locked when the boys' dressing room is used for basketball games in the evening by the school or the community. Adjoining this room is a drying room large enough to wheel in a basket truck. This drying room is especially equipped with intense heat and an exhaust fan so that the gymnasium suits can be dried out in short order. The

dressing room has 50 full length lockers so that a class of 50 boys may be scheduled at one time. There is a toweling room between the dressing room and shower room. The gang showers have 15 showerheads.

#### The Team Room

A special team room is arranged for football and basketball teams. This room is equipped with 60, one-half length lockers 12 by 36 inches, for street clothes.

Another room adjacent to the team dressing room serves as an office and first-aid room.

#### Community Use

This gymnasium has a beautiful front entrance and lobby. The front doors are stainless steel and aluminum. The lobby which is trimmed in aluminum, has two display cases and two ticket booths. The floor is terrazzo,



arranged in a color design. The walls are rose marble and the ceiling is acoustical tile, with recessed lighting. Glass brick are used over the entrance doors. Off the gymnasium floor and each side of the lobby public toilets have been arranged for both men and women.

With a seating capacity of 1500, it is anticipated that this gymnasium will be in constant use evenings for basketball games of the high school and games of various community teams.

The Stratford Public Schools believe that school buildings should be used by the public as well as by the school children. This was kept in mind when this gymnasium was constructed. The high school sponsors many school clubs and other activities of interest to pupils. At least once a week, usually Friday or Saturday evening, a party or school dance is sponsored by one of the clubs or classes. The gymnasium is used for this purpose and several hundred boys and girls are always in attendance.

### Band and Music Room

In addition to the gymnasium, the project includes a fully equipped band and music room. The main room is 53 by 45 feet, has an elevated platform with several levels, and can accommodate a band of 80 and a chorus of at least 160 if necessary. This room has an asphalt tile floor; the platform has a maple floor, an acoustical ceiling, and recessed lighting. There is a green glass blackboard at the front of the room and electric outlets for use of a radio or wire recorder. There is an office for the vocal and instrumental music instructors.

### General Construction

This building was designed by C. Wellington Walker, architect, Bridgeport, Conn. The floor plan is so arranged that there is economy of space but ample space to meet the needs of a physical education program for 1450 boys and girls.

The main gymnasium floor has a ceiling 22 feet high, the entire room is 119 by 87 feet. The ceiling is treated with acoustical blocks; lights are recessed in the ceiling. There is a 12-foot space between the ceiling and roof. This space was required for the steel beams and trusses. It also provides room for the circular heating and ventilating units recessed in the ceiling, for the radiators and motors required for heating and ventilation.

All walls of the main gymnasium floor, halls, and locker rooms, are light mottled green glazed structural facing tile. The gymnasium floor is maple, while all hall and locker room floors are terrazzo. All window sash throughout the building are aluminum. The gymnasium windows are tempered polished plate glass. Obscure glass, 1/4 inch thick, was used for the shower room and locker room windows. All door glass are 1/4 inch thick wire glass.

The roof is of excellent construction. All flashings are 20 ounce copper. The steel decks were covered with 15 pound saturated roofing felt sheathing paper, two layers of 1-inch thick rigid material insulation. This was covered with composition roofing which includes several layers of roofing paper and mopping in of hot asphalt or pitch in accordance with the requirements for a 20-year type AA roof.

All toilet and shower room partitions are of marble. Each dressing room has the inside wall lined with mirrors and marble counters.

### Heating and Ventilation

The heating, ventilating, plumbing, and electrical work includes the latest in mechanical devices. The two steam boilers are cast iron, each with 658 square feet of heating surface. Oil burners are installed to use No. 5 oil. The heating is controlled with a pneumatic vacuum control system; and the building has ten heating zones, each thermostatically controlled. Each half of the gymnasium is heated and ventilated by two large fans mounted above the ceiling. Each locker room has three exhaust fans.

Folding partitions are operated by motors controlled by remote push-button switches.

The gymnasium is equipped with an electrically operated scoreboard and timer.

The entire building is equipped with an automatic fire alarm system, clocks, and program signals in each room.

Gymnasium lights are all recessed in the ceiling and are controlled by four mercury switches.

Hot water is provided from the heating boilers and is stored in a 1500 gallon "Everdur" lifetime storage tank.

In summary it may be said that this gym-

nasium is designed to provide adequate facilities for a modern program of health and physical education. It is constructed of enduring materials that will require little maintenance. With a seating capacity of 1500, the people of the community can enjoy the basketball games of the high school. This building can be used for many community purposes, including parties, dances, and community basketball games.

Here is a building of which the people of Stratford can be justly proud.

### CONSTRUCTION DETAILS

|                   |  |                     |
|-------------------|--|---------------------|
| Size:             | 29,380 square feet.  |                     |
|                   | 663,270 cubic feet   |                     |
| Cost:             | Base contract  | \$455,929.00        |
|                   | Site, grading paving   | 25,434.61           |
|                   | Bonds, advertising, architect  | 30,465.13           |
|                   | Furniture and equipment  | 13,171.26           |
|                   | <b>Total</b>   | <b>\$525,000.00</b> |
| Construction:     | Exterior walls—red face brick; interior walls—glazed tile; ceilings—acoustical tile; roof frame—steel posts, beams, trusses, and steel deck covered with insulation and built up roof. |                     |
| Floors:           | Concrete slab on rock fill. Gymnasium floor—maple; showers, dressing rooms, locker rooms and halls—terrazzo; music room—asphalt tile; toilets—ceramic tile.                            |                     |
| Windows:          | Aluminum sash.   |                     |
| Doors:            | Wood, flush veneer.  |                     |
| Heating:          | Steam heat, with unit heaters and convectors. Separately and automatically controlled exhaust fans for locker rooms, teamroom, uniform room, and toilets.                              |                     |
| Seating Capacity: | 1500 on folding bleachers.   |                     |

## I'd Resolve to Clean House

*Julius Barbour\**

New Year's Day was on Monday and the habit of years prevailed as I walked through the white, deep snow of Northern Wisconsin. I wanted to spend a few minutes at my office desk before school resumed on Tuesday.

Joe, the custodian, had half finished shoveling the sidewalk as I turned the corner. Seeing me he thrust the shovel upright in the high bank of snow and said, "Happy New Year, Mr. Super. Mind if I walk in with you?"

What does one reply when he knows that a positive or negative reply will bring the same result? "Happy New Year, Joe," was my administrative noncommittal answer.

I gazed at the newly fallen snow and thought of the New Year and its beginning as Joe's voice reached a new pitch of intensity.

"... And if I was you, I'd resolve to clean house," he said as he held the door for me to enter.

At the top of the steps we paused as Joe opened a student's locker. Out tumbled an assorted array of textbooks, gymnasium shoes, paper sacks of half consumed lunches, and an avalanche of comic books.

"It happens all the time," Joe said, "and you could put a stop to it." We stuffed the assortment back into the locker as I raised the one logical question of *how*.

I leaned against the top post of the stair rail as Joe began.

"We need a locker cleanout. The first ten minutes tomorrow morning I could get all

baskets from the rooms and line them up in the hall. Each teacher could appoint a pupil inspector. You could ring a bell. All pupils would go to their lockers, pull everything out, discard into the baskets all the trash, and stack the rest of their stuff back in good order.

"The inspector would O.K. the job and then the pupils could return to their rooms. It would cut my hall sweeping time in half."

Joe turned and looked sadly at the dark puddles he had made on the clean floor; then he went out to resume his shoveling. At the desk I took a cursory glance at accumulated mail and mulled over Joe's idea.

Tuesday morning we cleaned house. Pupils and teachers were enthusiastic over the results. The local newspaper's roving cameraman who was out shooting pictures of the snow storm arrived at the school.

Two truckloads of accumulated junk were about to pull away from the back door. He took pictures of the loads. His paper ran a feature story of this new idea of cleaning house at a public building.

Wednesday the editor rushed up a copy of an early edition to put on our bulletin board. The write-up was well done and there were pictures of the truck loads of trash about to pull away from the building up the snow piled lined driveway.

Then I saw it . . . in the corner of one picture which included the building door . . . Joe, the custodian . . . my public relation's man incognito . . . grinning broadly as he entered each home in our town.

\*Assistant Professor, Continuing Education Service, Michigan State College, East Lansing.



# Construction Details of the Technical Addition to the Tucson Senior High School

About four years ago teachers, pupils, school patrons, skilled workers, businessmen, representatives from all groups of the Tucson school staff began making plans for a new technical and vocational building for our senior high school. A few months later a federal grant made it possible to translate some of the thinking of this group into tentative plans. These tentative plans were sent back to study groups where they were revised and re-revised by the schoolmen and the architects. The replanning took many months, but finally the revised plans and specifications were put out for bids.

The building cost (without furnishings and equipment) was \$1,600,000, plus architect's fees. The school site cost approximately \$200,000, and furniture and equipment cost about \$500,000.

The building is being used from 7:40 A.M. until 10:00 P.M. Our night school and adult education programs are expanding rapidly. It seems that everyone wants to go to school.

Of course some mistakes have been made, but the co-operative long term planning of the building eliminated many mistakes that would otherwise have been made. The school program is also being developed co-operatively.

Francis A. Vesey, assistant superintendent in charge of buildings and grounds of the Tucson schools, and C. A. Carson, assistant superintendent of schools, deserve much credit for this fine building. Mr. Carson worked with the various groups in all of their activities. Mr. Vesey not only worked with the planning groups but also personally inspected all construction work. Messrs. Place and Place of Tucson were the architects (and were most



Details of street view, Vocational Building, Tucson Senior High School, Tucson, Arizona.

patient with the planners); the firm of Ashton and Joynt were the builders.

The special rooms — a school bank; a store (planned and completely equipped by Tucson

merchants) for distributive education, store layout, display, merchandising, etc.; a home-making department that includes a mirrored fitting room, powder rooms, automatic wash-

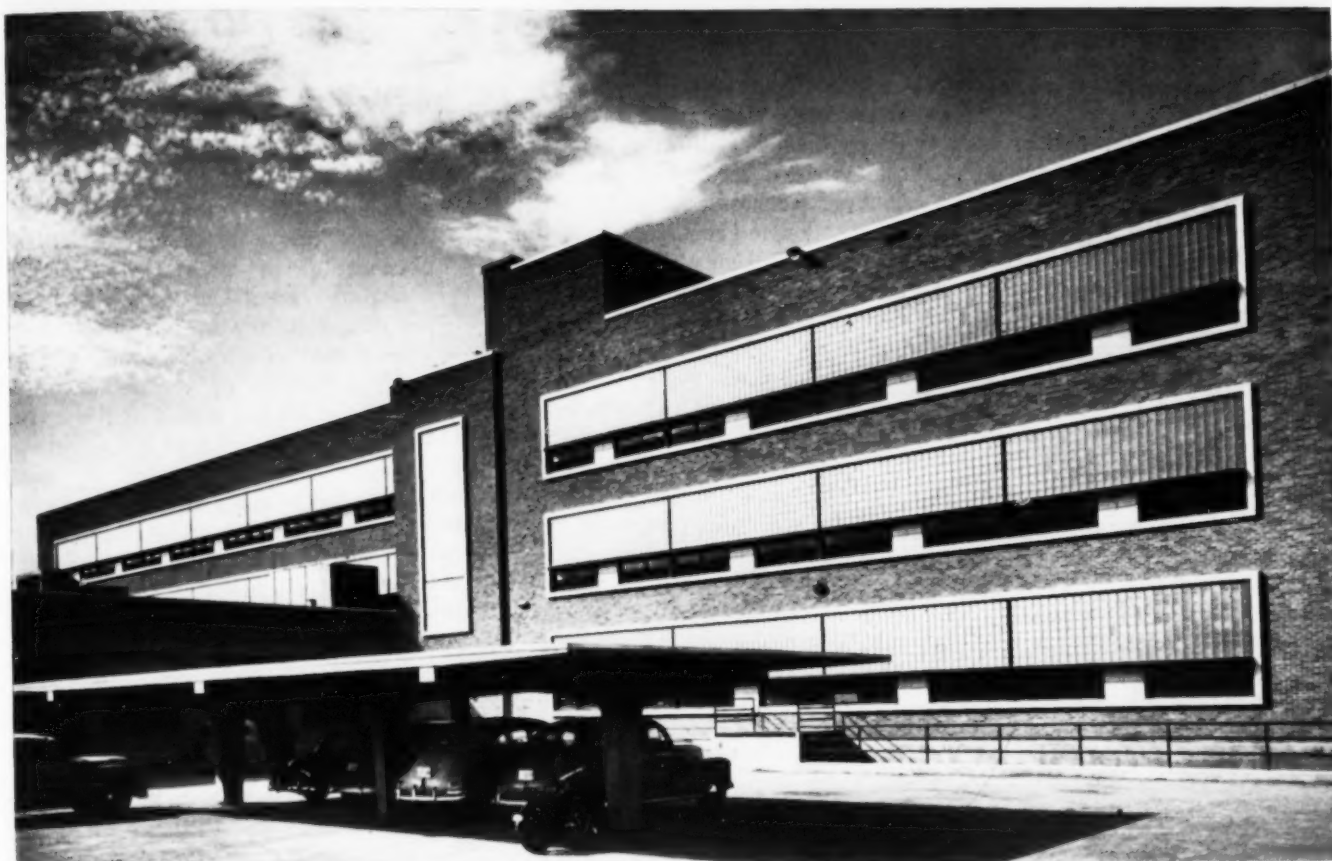


The main machine shop is equipped with typical modern production machinery.



A typical business department room, the typing department, Tucson Senior High School Vocational Building.





Vocational Addition, Tucson Senior High School, Tucson, Arizona. View of main courtyard.  
Place & Place, Architects, Tucson, Arizona.

ers, etc.; art rooms with well-planned display cases; drafting rooms; science rooms; business machine room, etc. — all these practical areas delight both the teachers and the pupils.

Mr. Vesey gives the following information in regard to construction details of the building:

The building is designed so that all types of related instruction to vocational work is handled in a three-story structure. All shops are installed in the one-story structure attached to the main building. The original plan for the three-story part of the building called for a basement under the center section of the main building only, to be used as a group of storage rooms, the boiler room, and a crafts room. The revised plan called for a basement under the complete three-story structure, but no basement under the one story, or shop wings. The three-story part of the building is built with reinforced concrete throughout. It has curtain, or exterior, walls composed of 8-inch cinder block on the inside and 4-inch rough-faced brick on the exterior. All the interior walls and partitions are made of gypsum block, 3½ inches thick, plastered on both sides.

All main floors are finished troweled concrete and covered with ¼-gauge burlap backed linoleum. Toilet and rest room floors are laid with ceramic tile, and walls are tiled with glazed tile to a height of 5 feet. All outside doors are stainless steel; lobbies, stairways, and landings are made of terrazzo; the edges of all stair treads have cast-iron safety strips, 3½ inches wide, on the front edge of each

step. The buildings contain as many built-in features as possible, including all types of built-in storage cases, bookcases, special classroom-equipment storage, in addition to the regular built-in equipment such as that used in the home economics, commercial, art, and science departments.

There are two elevators in the building. One is used for passenger service, running from the basement to the third floor, and the other is used for freight service, running from the basement floor up to truck-bed height on the ground floor level. This freight elevator is a necessary addition to the building because much of the basement is used for storage. The freight elevator is of the hydraulic type, and the passenger elevator is a standard electrically operated type.

Acoustical treatment for classrooms and halls is accomplished by the use of perforated fiberboard, ¾ inches thick, that has approximately .60 sound absorption. The ceilings in the halls are lower than the classroom ceilings. The acoustical treatment on the hall ceilings makes the halls extremely quiet for students passing from class to class between periods.

The heating plant is located in a basement room and is composed of two gas-fired steel boilers that operate the hot water heating system piped to hot water convectors in every part of the building, including the one-story shop wings as well as the three-story structure. The building has six heating zones operated by indoor thermostats and outdoor anticipators. Each zone is controlled by a pump near the boiler, that pumps hot water to the respective

zone called for by the outdoor anticipator or indoor thermostat. We feel that this type of control on heating will be far more satisfactory than the old standard form of hot-water heating since various parts of the building are either colder or warmer than the other parts, depending on the time of day and the exposure to the sun and wind. Each room is equipped with a hot-water convector, with a blower type fan used to distribute the air within the classroom. All the shops use the overhead fan-type convector for distribution of heat. We felt that the overhead type will be more satisfactory for shops than the floor type due to the space requirements and the economy of cost in the initial installation.

The window area to all classrooms and shops consists of light directional glass blocks in the upper portion of the window, with a vision strip (steel sash) about 30 inches wide. There is a space of 42 inches from the floor to the bottom of the glass blocks. The lower member of this vision strip hinges in for fresh air and ventilation. At the bottom of the glass blocks and top of the clear vision strip a canopy extends out 18 inches in a continuous strip along the exterior of the building to keep direct sunlight from shining into the classroom. If it were not for this canopy, it would be necessary to install venetian blinds over the clear vision strip. The prism directional glass blocks reflect the light to the ceiling where it is distributed fairly even over the classroom.

The construction of the shop wings con-

(Concluded on page 93)



## *The American* **School Board Journal**

William C. Bruce, *Editor*

### **SCHOOL BUILDING IN 1951**

THE year 1950 recorded most satisfactory progress in school building planning and construction. Contracts for school buildings costing more than 1 billion dollars were let and preliminary commitments were recorded for expenditures of a further 1 billion dollars in 1951.

Perhaps the most heartening happening of 1950 for the restoration of school plants to a plane of educational adequacy was the enactment of a section in Public Law 815 setting up an appropriation of 3.5 million dollars for a national survey of existing school buildings. The federal funds which must be matched by the states will be adequate for determining the character of present school buildings to meet the needs of a reasonably sound program of instruction. The co-operation of the 48 state departments of education and of local school authorities will be needed to make use of this great opportunity to make a true inventory of our school plant, to appraise its fitness, safety, and economy, and to enable competent experts to determine in terms of instructional rooms and buildings, and in estimates of cost the total school building needs. Only on such facts can a sound estimate be made of the economic burden which must be met to give all American children the school facilities they will require in the decades ahead.

School plant survey techniques which are sound are now generally understood and trained personnel is available to apply them so that there is no reason why any medium size or larger city need approach its school plant problems without dependable data in the hands of its board of education. For the national survey additional personnel must be trained to do the job in rural areas and smaller communities. The headway made by the national survey will be watched as a challenge to the U. S. Office of Education and to the School Plant Divisions of the several state education departments to exercise leadership in causing local school authorities to make complete surveys.

Progress in school building planning is not sudden; basic ideas for improvement seem to take hold slowly. It is impossible to say that 1950 developed any striking advance in educational planning or in architectural design. Among the failures

may be noted the fact that the exterior design of many of the new buildings is not only lacking in interest and distinction; it represents a kind of commercial modernism which makes it difficult to distinguish a school from a factory or an office building. There is much unintelligent use of types of fenestration and general layout which originated in hot, sunny climates and which is valuable in California and in the southern tier of states. This type of open, airy building is wholly unsuited in northern situations. On the whole, there is need for greater attention to the exterior design of schools so that they may fully reflect the rich, new programs which they house.

The recent popularity of the one-story type of school building has led some school authorities to accept plans without regard to true educational efficiency and ultimate economy. The one-story plan is ideal for situations requiring the large, square, bilaterally lighted classroom where not more than ten or twelve class units need to be accommodated. In larger buildings, teachers and principals who must travel the endless lengths of corridors will not bless their designers. And the school boards who must meet the repair bills will wish that roofs were less expansive and the construction generally of the more permanent two-story type.

It seems inane to repeat the ancient truth that every school building is a distinct problem which must be solved in terms of current local needs and opportunities. More than in the past no conventional solution can be given for the over-all planning of any schoolhouse, for selecting room sizes and shapes, and for picking materials and types of construction. A highly desirable piece of mechanical equipment in one case may be a total failure in another. If some degree of flexibility and opportunity for expansion are built into an otherwise efficient school it is certain that the children will enjoy an adequate educational environment.

If the United States is compelled in 1951 to enter a full-scale war, the school building program will be interrupted to some degree by losses of building mechanics to the war industries, by shortages of materials, and most seriously by further rises in cost. For the present it is clearly desirable that school boards press their programs of construction, that they ask vigorously for the exemption of schools from the restrictions by the National Production Authority limiting the use of steel, aluminum, etc. There is good reason for insisting that the social and economic services of education should be maintained at a high level in adequate school plants.

### **THE PASADENA FAILURE**

THE resignation of Supt. Willard Goslin, at the request of the Pasadena, Calif., board of education after a white hot controversy over the superintendent's educational policies, brings to an end a series of tragic failures. Responsibility for these failures must be shared by the board of education, by a portion of the teaching staff, by a section of the community.

Frankly, the members of the board were not convinced that the superintendent's theories of the education of the whole child are sound and reversed their original acceptance of his progressive policies. If they had seriously considered the effects of his ideas and ideals at the time of employment, they could have forestalled the entire series of difficulties.

The lay groups in opposition seem to have received some encouragement from professional sources, individuals opposed for one reason or another to the superintendent's regime. Whether right or wrong the citizens were within their rights in objecting to sex education and the use of certain social science books and teaching materials; their methods of fighting and some of their motives may be questioned.

The real tragedy is that the superintendent's zeal led him to overlook the fact that he was asking for a kind of educational progress which a wealthy community that prided itself in its superior Americanism and its high social quality did not appreciate and was unwilling to accept.

No schoolman could be more devoted to the democratic ideal than Dr. Goslin, especially when he pointed out that a community is entitled to control its educational affairs through its elected representatives.

### **DR. GERWIG PASSES**

GEORGE W. GERWIG, who was secretary of the Pittsburgh board of education for 35 years, and who after his retirement in 1929, served for 20 years as a member of the board of public education, died in November after a long illness.

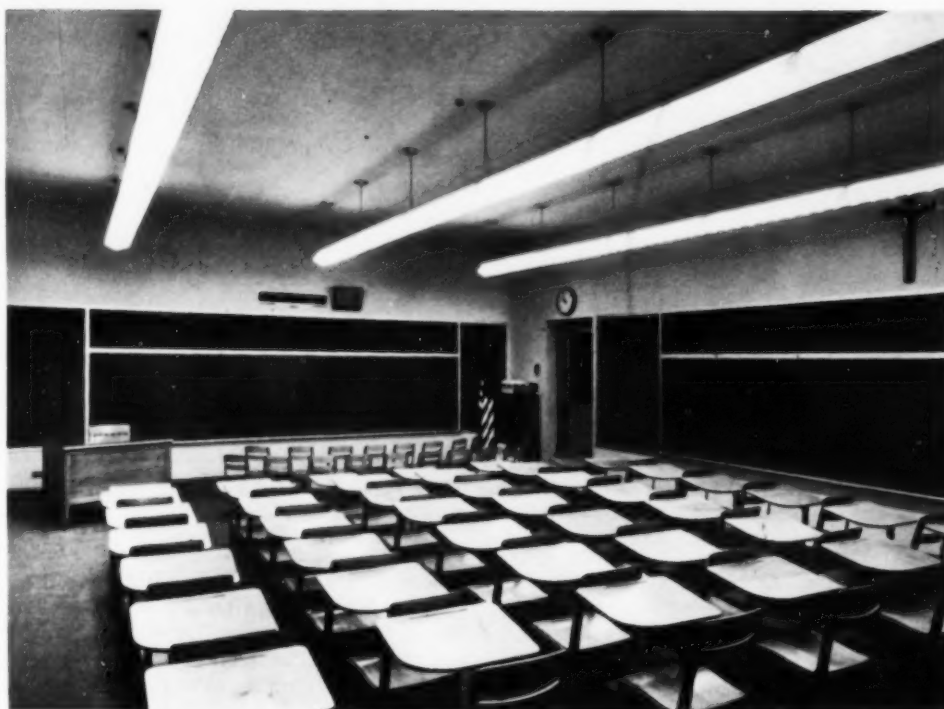
Dr. Gerwig was unique as a school business official in that he was more strongly interested in the educational service of the schools than in the mere business management and accounting. His educational insight was important in the early development of the Association of School Business Executives and his writings were widely influential in setting up the career possibilities of school business administration. While he was a co-ordinate executive of the Pittsburgh schools, it was noted that his entire philosophy of official service was based on co-operation with the superintendent as chief executive. Pittsburgh has lost a valuable civic leader in his passing.

# The Future of Artificial Lighting of Schoolrooms *C. J. Allen\**

The era of emancipation from semidarkness in schools is just starting. During the next ten years, paint and light, acting as partners, will enter the classrooms of the country and the schoolrooms will emerge as light, cheerful, and airy environments in which the attainment of education through seeing becomes comfortable and efficient.

In many renovation programs the painting may need to be done first in order to eliminate the light absorbing dark finishes which characterized yesterday's classrooms. It is only by the use of light colors on walls and other important areas within the visual field that the room can be set for the comfortable and efficient use of improved lighting. While ceilings will be nonglossy white, walls will be in soft eye-appealing pastels in light greens, tans, grays, corals, and blues — several harmonious colors may be found in each room. Desk tops will be light in color to provide low contrast between the visual task and its surround. Chalkboards will be finished in medium green to improve the brightness ratio. The days of the institutional schoolhouse mud colors designed to hide dust and dirt are over.

Much of the development work of the next ten years will be on investigating and specifying



In the 22 by 32-foot classroom, three rows of two-lamp fluorescent fixtures will continue to be a good recommendation during the next ten years. Slimline lamps will be favored as they do not require starters. Shielding will be at least 40° to assure visual comfort.

\*School Lighting Specialist, General Electric Company, Nela Park, Cleveland, Ohio.



Rows of slimline lamps operating at 1000 foot-lambert brightness are shielded by vertical baffles in this sewing room.

ing the quality or the comfort factors in lighting. One immediate result of the demand for greater visual comfort is evident in the increasing number of louvered-bottom fluorescent luminaires designed, or equipped, to shield lamps from view within a 40° angle instead of the 25°, 35°, provision generally available in the past. Well-designed luminaires will help to obtain the ideal seeing environment in which there are no brightnesses much higher or substantially lower than that of the visual task.

## Higher Lighting Levels Likely

With improvements in lighting quality and with technical developments which permit lowered cost of lighting, the advantages of higher illumination levels will be more widely used. The 30 foot-candles currently considered minimum practice represents an economical and technological resting point on the ladder of the human benefits which can be attained through better lighting. An optimum level appears to be of the order of several hundred foot-candles for average seeing tasks. To attain such value practically, and with assured comfort, will be one of the main problems of the lighting specialists. Through the use of some of the newer daylight construction and daylight control materials, students can now enjoy well





With 40-watt T-17 (low brightness) lamp in the luminaires of this drafting room, louvers are eliminated and maintenance is simplified.

over 100 foot-candles some of the time. Electric lighting levels in the 50-100 foot-candles range in typing rooms, sewing rooms, drafting rooms, and classrooms for visually handicapped students will be rather common practice. For general classroom use, 20 to 70 foot-candles will be the general range. The actual value used will be influenced by the amount of daylight available during school hours and upon the financial status of the school system.

In regard to a choice between filament and fluorescent sources for school lighting, the more one knows about the relative merits and limitations of the two, the more he will realize that they are complementary rather than competitive. A comparison of their characteristics will show that where one is weak, the other is strong. In many of their characteristics, they are equally good.

Filament lamps are strong in their simplicity; smaller source and equipment size, and fewer number of luminaires needed; operatable on either a.c. or d.c.; lower first cost of equipment, and in their ability to focus the light into a spot or flood pattern.

### Better Fluorescent Lights

Strong factors for fluorescent lamps are in their higher efficiency and less wattage needed; less generated heat hence higher foot-candles with comfort, lower source brightness, less shielding needed, and higher utilization possible; and varieties of white light available. There will probably be more new applications and equipments center around the fluorescent than filament lamps, and some moderate gains in life, efficiency, and color may be had.

The most interesting fluorescent lamp at the present is the 8-foot, T-12, instant start lamp. This lamp may be operated at various current loadings to obtain high brightness and

high light output per foot where wanted, or at low current values for low lamp brightness. Low brightness lamps need less shielding and louvers; hence they simplify and lower maintenance costs. The tendency will be toward the hot cathode rather than the cold cathode type fluorescent lamps because of efficiency reasons.

Ballasts necessary to operate fluorescent lamps will be smaller, weigh less and have lower wattage losses. Instant start ballasts will be used in order to eliminate the starters.

For some time to come, the basic school lighting systems will consist of continuous rows of louvered bottom units. In 22 by 32-foot rooms, three rows will be considered good



Completely luminous plastic ceilings assure good brightness ratios and may become quite popular because of their attractiveness.

practice, and two rows an acceptable minimum installation. One type of equipment which will be seen in many new schools will be the etched aluminum troffers which are recessed in the ceiling crosswise of the viewing direction of the room and which use the low brightness lamps so that no louvers are necessary under the lamps. Efficiency and comfort will be good and little maintenance will be required. Completely luminous plastic ceilings illuminated by grids of lamps above the translucent plastic is one of the new techniques developed to provide high quality lighting in a neat, attractive manner. Low brightness lamps (below 1000 foot-lamberts) installed on the ceiling in rows crosswise of the rooms and shielded to a 45° angle from casual view by vertical baffles located between the rows of lamps will be another interesting technique. By using an acoustical material for the baffles, the system can provide sound conditioning as well as good light conditioning. Troffers, louverall, and luminous plastic ceilings are examples of a trend toward concealment of the lighting devices, similar to the practice of hiding pipes, ducts, and other services in the frame of the building.

### Solving Special Problems

After a school system has taken care of the basic needs of lighting its classrooms and the value of good lighting is experienced and appreciated, more attention will be concentrated on the specialized lighting problems. For example, supplementary lighting of 50 to 100 foot-candles will be added to the chalkboards to give improved visibility and attention value. Well-shielded spot lights will be used more freely on demonstration tables so all may see the demonstration more clearly. Corridors will be lighted with continuous rows of slimline fluorescent lamps equipped with simple crosswise shields. By loading the lamps in this row to different values, a high lighting level can be provided in locker sections, and a lower level where the area is a mere passageway. Illuminated corridor displays, such as bulletin panels, art subjects, trophy cases, and general exhibits, will become high points of interest in the schools.

In some gymnasiums the lighting level will be the highest found in the school. Combination fluorescent and incandescent systems will be common. Fluorescent being used for long hours of general use because of its lower operating cost. An additional incandescent system will double or triple this level, and will be used during the big game events for the specific benefit of the spectators who pay to see the games.

Many school stages will be relighted, placing greater emphasis on more individual spotlights, controlled from more flexible switchboards. Footlights will be used less. Spotlights, located in the auditorium ceiling and aimed down to the front of the stage will come to be the most useful of the stage equipment. Reflector lamps in simple adjustable sockets with provisions for using color filters will be widely used, especially on the small stages. Audi-

(Concluded on page 95)





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# National School Boards Association Convention Plans Nearly Completed

*Edward M. Tuttle*

As a result of personal conferences between President J. Paul Elliott and the national executive secretary, made possible when both were attending the Mid-Century White House Conference on Children and Youth in December, plans for the 1951 N.S.B.A. Convention in Atlantic City, February 16-20, were beginning to take final form at this writing (December 9).

## Committee Appointments

In addition to the Resolutions Committee announced last month, other committee appointments are as follows:

General Convention Chairman, Earle D. Baker, member of the Los Angeles Board of Education. Mr. Baker served ably last year as chairman of registration, and is now constituting his working groups for this and other phases of the convention operations.

A Publicity Committee has been created to do all it can to spread news of the annual convention of the National School Boards Association prior to, during, and following the meeting itself. The chairman of this committee is Calvin Grieder of Colorado, and he will be assisted by Myron W. Clark of Minnesota, W. A. Shannon of Tennessee, Maurice E. Stapley of Indiana, and Fred G. Thatcher of Louisiana.

A large Hospitality Committee is being formed to welcome delegates and board members at the convention and to help them have a good time and feel at home. Since New Jersey is the host state to the Atlantic City meeting, the chairman of this committee will be one of the New Jersey association leaders, though the committee members will include many from other states who have attended N.S.B.A. conventions in past years.

A committee on Nominations will be constituted under the chairmanship of J. G. Stratton of Oklahoma, a director of the N.S.B.A. Officers to be elected at the convention are president, first vice-president, second vice-president, treasurer, and two directors for 3-year terms.

Treasurer Robert M. Cole has been appointed chairman of a committee on By-Laws and Finance which will review the operation of the plan of financial support adopted at the 1950 Convention and suggest for consideration any modifications that may seem desirable. There will also be an Auditing Committee to review the records of the Association.

## Program Features and Participants

Dr. John H. Bosshart, Commissioner of Education for the state of New Jersey, has been invited to give the address of welcome at the opening session on Friday afternoon, February 16, in the Viking Room of the Haddon Hall Hotel. This will be followed by

President J. Paul Elliott's address; by the report of Executive Secretary Ed Tuttle on his activities and the operations of the national office during the past year, with some suggestions as to the future; by Treasurer Robert M. Cole's report on finances, including an analysis of the financial setup and its outcome in 1950-51; by a report on the Survey of State Associations by A. L. Chapman of the University of Texas; and by a general discussion of N.S.B.A. services and activities, past, present, and potential. Guests on the platform at the opening session will include a number of the leaders of educational organizations with which the N.S.B.A. is co-operating.

On Friday evening, when the program is to be devoted to "Education in the National Emergency," speakers will include Dr. Earl J. McGrath, U. S. Commissioner of Education; Dr. Willard E. Givens, executive secretary of the National Education Association and chairman of the new National Conference for Mobilization of Education; J. L. McCaskill, co-ordinator of the National Conference for Mobilization of Education; and several people on manpower and materials from the U. S. Office of Education. These men will constitute a panel well qualified to answer any questions which may arise in a general discussion of priorities and allocations of critical materials, draft deferments and manpower problems, civil defense, and numerous other problems connected with mobilization and the national emergency as related to the public schools.

Saturday morning, February 17, leaders of six national organizations are being invited to discuss ways in which their members and members of state and national school board associations should be "Working Together for

Public Education." Included on this program will be a representative of the American Association of School Administrators (the incoming president, if possible); the president of the American Association of Colleges for Teacher Education, Dr. John G. Flowers of San Marcos, Tex.; Mrs. Edwin Troland of Malden, Mass., chairman of the Public Education Division of the Education Department of the General Federation of Women's Clubs; O. H. Roberts, Jr. of Evansville, Ind., a director of the N.S.B.A., but representing on this occasion the National Citizens Commission for the Public Schools of which he is a member; the president or other officer of the National Congress of Parents and Teachers; and the new president of the National Council of Chief State School Officers, Dr. Lee M. Thurston, Superintendent of Public Instruction for the state of Michigan. It is planned to give attending delegates and board members an opportunity to discuss ways of further advancing co-operative working relationships between the N.S.B.A. and other national organizations having a concern and interest in public education.

The session on Saturday afternoon will be devoted to a discussion of "State Association Services to Local Boards," led by a panel of state secretaries. This will be followed by the consideration for adoption of a large number of important resolutions, and by the election of officers for the ensuing year.

The annual banquet of the National School Boards Association will be held in the Rutland Room of Haddon Hall Hotel at 6:30 p.m. on Saturday, February 17. Music by representatives of the Atlantic City schools, and the presence of a number of distinguished guests will feature the occasion. A speaker of national reputation is being invited to make the principal address, but pending acceptance his name cannot be given. Announcement will be made in the February issue of the JOURNAL. The banquet will be the concluding high light of the N.S.B.A.'s own convention, but attending members and delegates should remain in Atlantic City to participate in the great meeting of the School Administrators which immediately follows, and during which several sections will be sponsored jointly by the two associations.

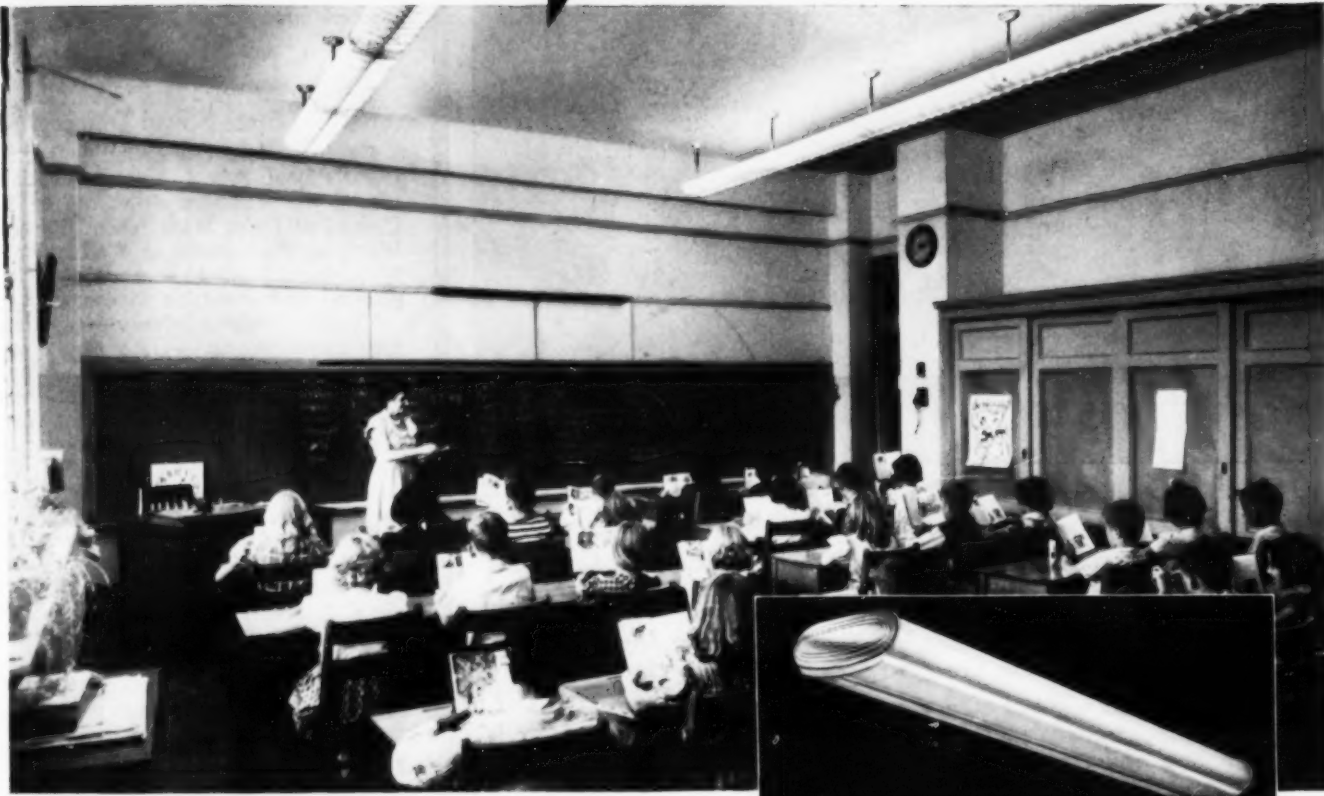
## Television Channels for Education

Beginning on November 27 and continuing for several days, the Federal Communications Commission held a series of hearings on the allocation of television channels at which educational leaders were represented. In lieu of personal testimony, N.S.B.A. President J. Paul Elliott authorized the following letter to the Commission from national association

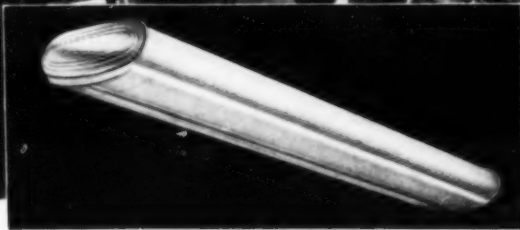
(Continued on page 64)



SYLVANIA SAYS:

**EYES RIGHT!**

Modern teaching and lighting methods go hand in hand in this Sylvania lighted school, Floral Park, Long Island, N. Y.



CP-242. This attractive 4-foot Trimline fixture comes with two 40-watt Sylvania tubes. Can be surface or pendant mounted. All-plastic shielding provides low brightness and conforms to the American standard practice for classroom lighting.

## New Sylvania Trimline Fluorescent

**Fixtures are easy on children's eyes . . . and your budgets**

No seeing hazards here! Sylvania Trimline Fixtures fill this classroom with an abundance of glare-free light of low surface brightness . . . just right for children's eyes.

Note the absence of shadows and blind spots. With this clear, fluorescent light, approximating daylight, everybody benefits . . . teachers as well as pupils. For an even softer light . . . completely diffused . . . many schools choose Sylvania's fully plastic shielded fixture, CP-242 (see insert illustration).

### Cost is right, too

You'll find these handsome Sylvania Trimline Fixtures are

reasonable in price and remarkably low in maintenance costs. Coated with white "Miracoat" enamel, to resist dust and dampness. Completely equipped with the famous, long-life fluorescent lamps which, tests prove, last up to 6 years in schools . . . save real money in replacements and replacement labor costs.

Sylvania Trimline fixtures are made in 13 styles and sizes to harmonize with the best in modern school design. Available in standard or instant start, with louvered or full-plastic shielding. The coupon brings you illustrated folder and information about the complete Trimline Series. Mail it today!

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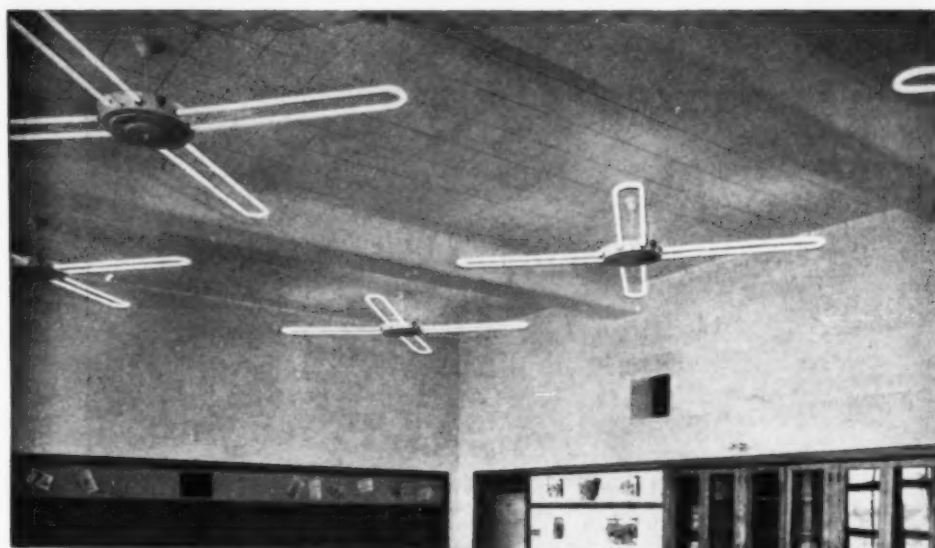
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### BE SURE TO INVESTIGATE COLD CATHODE HAIRPIN LIGHTING FOR ALL ACADEMIC ROOMS

Rapidly rising prices are shrinking the dollars in the school budget — the dollars that are allocated to the purchase of new school buildings and all of the modern equipment that must be purchased to equip them. This rather unfortunate condition cannot stop the building of schools necessary to accommodate the many youngsters who are not now receiving sufficient schooling.

No! Increased prices will not stop our school building programs! It will, however, make school boards much more conscious of what their money is purchasing. Lighting equipment might be used as an example.

Today, more and more school boards are investigating and installing Cold Cathode Hairpin lighting. They find that Cold Cathode is lower in first cost — that it provides more uniform light distribution — that it is far less costly to operate and maintain (20 to 50% less than other types of lighting.) These factors make Cold Cathode lighting the answer to better school lighting and the shrinking dollar. Be sure to investigate Cold Cathode Hairpin lighting fixtures before writing your lighting specifications.

SEND FOR FREE BOOKLET

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**ILLUMINATING ENGINEERING COMPANY**

2347 EAST NINE MILE—HAZEL PARK, MICHIGAN

## "All Aboard"—

(Continued from page 62)

headquarters in Chicago under date of November 18, 1950:

Gentlemen:

The National School Boards Association urges that the Federal Communications Commission exercise its utmost wisdom and foresight in resisting the pressures of self-interested groups which would seize all available television channels now and close the door forever to their use by the constructive forces of education.

Education has a vital role to play in America if we are to continue to live as free men in a representative democracy and do our part to lead the world to freedom, security, and peace.

Communication in all its varied phases is a

chief instrument of the educational process.

Television has already demonstrated that it is a potent phase of communication; in fact, its unique combination of sight and sound in close relationship between the observed and the observer may make it second only to intimate personal contact in its influence. Such influence, multiplied by the thousands of simultaneous impressions which may be experienced concerning one event or circumstance, makes the total potential effectiveness of television teaching beyond calculation.

It would be disastrous to the future welfare of the nation if those who are now charged with the responsibility of assigning television channels in perpetuity should lack the vision to withhold from commercial exploitation a percentage of the available channels large enough adequately to serve the educational needs of all our people in time to come.

The forces of education are not geared nor have they the resources to embrace quickly all such opportunities. But sooner or later they will come to the place where they will be able to do so and where it will be demanded of them so to do. When that day comes they should find the door open.

Meantime, the Federal Communications Commission might well urge the educational profession to prepare itself as rapidly as it can to take full advantage of this great new instrument of communication — television — which is being held in reserve by the Commission to insure the intellectual, economic, social, civic, moral, and spiritual growth of America's people, young and old.

Edward M. Tuttle  
Executive Secretary

### Chief State School Officers Meet

By invitation, the executive secretary of the National School Boards Association attended the annual meeting of the National Council of Chief State School Officers at the Wardman Park Hotel in Washington, D. C., November 27-30, 1950, and found it a very pleasant and profitable experience.

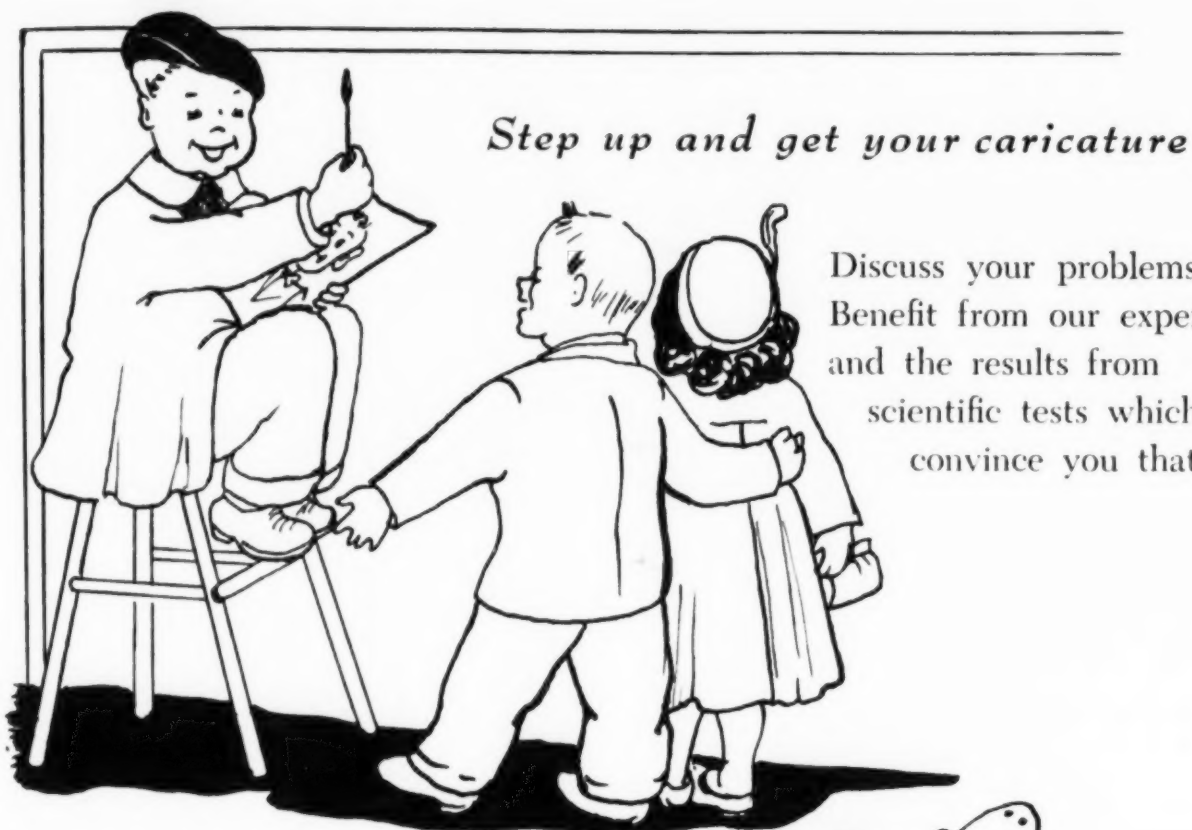
The chief school officers — superintendents and commissioners — from 42 states and 3 territories were present at the meeting in person under the able leadership of their president, Mrs. Pearl A. Wanamaker of Washington State, and their executive secretary, Edgar Fuller of Washington, D. C. The four days were spent in active discussion of numerous problems relating to the organization and functioning of State Departments of Education so that they may be of maximum service to the schools in these critical times. As a basis for the discussion, the Council had before it a report from its own Study Commission, composed of designated representatives from each State Department, which had spent the entire preceding week in Washington at a workshop devoted to "Problems of State School Administration."

The Council adopted a large number of resolutions. The more important included endorsement of the National Conference for Mobilization of Education, of Federal financial aid to public schools for maintenance and construction with control reserved by law to the states, of an independent U. S. Office of Education under a National Board of Education of outstanding lay citizens which would appoint the Commissioner as its executive officer, and of the principle of the independence of all educational administration from other phases of governmental service. The Council urged that education is our "first line of defense" and should be given increased support, high priorities for school building materials and supplies, and a man-power policy which will insure the continued strength of the system. It pledged support to the work of state and national associations of school boards, to the efforts of the American Association of Colleges for Teacher Education to raise the standards for such institutions, to the Commission on Life Adjustment Education, to UNESCO, and to numerous other agencies. It presented a strong plea for the allocation of television channels to education, for a public school program through the fourteenth year, for increased adult education, for more educational research, and for a better co-ordination of educational records and reports, state and national.

Election of National Council officers for the coming year resulted in the selection of

(Concluded on page 67)

# We'll be at the NEA Convention this year

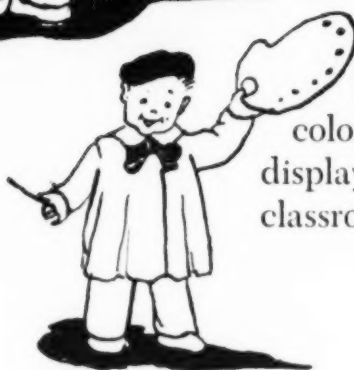


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Discuss your problems —  
Benefit from our experience  
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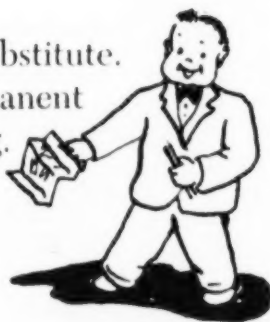


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*We will be happy to send you our new School,  
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## "All Aboard"—

(Concluded from page 64)

Lee M. Thurston of Michigan as president, Mrs. Pearl A. Wanamaker of Washington State as first vice-president, Finis E. Engleman of Connecticut as second vice-president, and the chief school officers of the states of California, Illinois, Minnesota, Missouri, North Carolina, and Utah as the six directors. Plans were made to hold the 1951 meeting of the Council during the month of July somewhere in the state of Washington.

### The Voice of America

While in Washington, members and guests of the National Council of Chief State School Officers were invited to attend a live broadcast of the *Voice of America* to its vast, unseen audiences around the world. The N.S.B.A. executive secretary went along and found it a most interesting and enlightening experience.

In view of the present world crisis and since these programs are not heard at all in the United States, it will be worth while to review a few of the essential facts regarding the broadcasts over Station VOA which operates 24 hours a day in 25 languages, including English.

The *Voice of America* is operated by the International Broadcasting Division of the Office of International Information of the Department of State. The purpose of the Office, as stated in the enabling act, is "to promote the better understanding of the United States among the peoples of the world and to strengthen co-operative international relations."

In carrying out this purpose, the *Voice of America* programs are of three kinds: (1) news, which makes up about 32 per cent of the total; (2) commentaries and features, including interviews, press reviews, round-table discussions, and the like, 57 per cent; and (3) music, 11 per cent. These all help to tell the world what we are like in America, to correct distortions and misrepresentations that Communist countries are spreading against

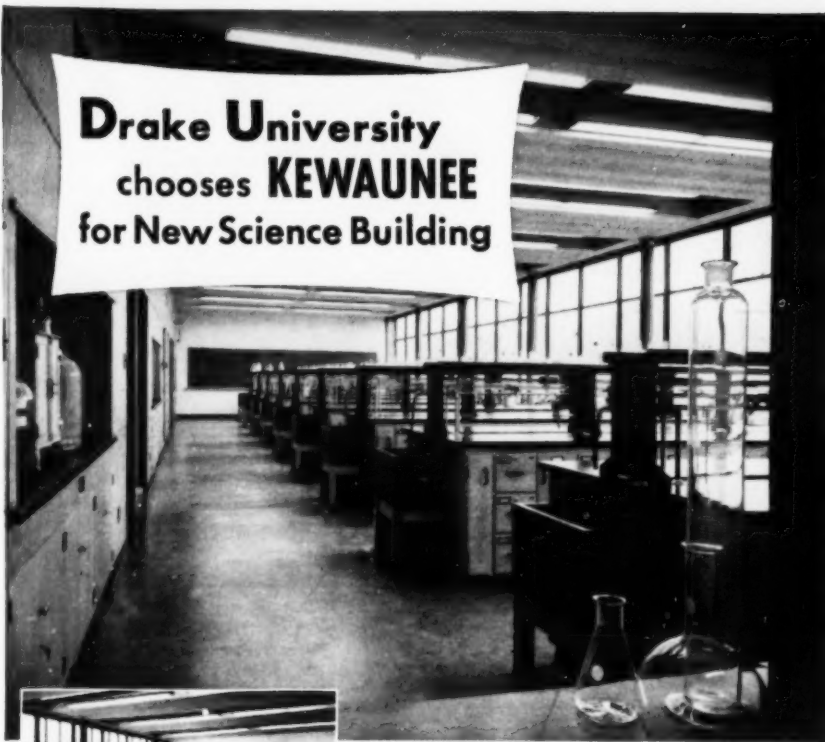
### RESOLUTION

"People do not lack strength so much as they lack will." — VICTOR HUGO.

What the great French novelist must have had in mind when he wrote the sentence quoted above is the fact that we all possess the capacity to accomplish far more than we do. It is not so much a question of ability as it is of firm resolution to undertake a needed task however formidable the obstacles and objections may appear in advance. Difficulties have a way of dissolving in the face of a determined will. Earnestness of purpose finds itself fortified by unsuspected reserves of strength. Resoluteness of spirit is the thing which above all marks the man or woman who achieves. As the New Year opens and many worthy resolves are made, it is well to remember that the will to carry them out is the primary factor in determining whether they will be kept.

—E. M. T.

## Drake University chooses KEWAUNEE for New Science Building



Three of the many science rooms at Drake University, equipped by Kewaunee. TOP—General Chemistry Laboratory; CENTER—Pharmacology and Physiology Laboratory; BOTTOM—Physical Science Laboratory.

Design, engineering, function, quality, value. All entered into the selection of equipment for the new Science Building at Drake University. And on every count, Kewaunee Laboratory Equipment stood at the head of the class!

Kewaunee design and engineering conform to the needs of the future as well as the present. Both wood and metal construction is "Custom-quality"—mass-produced to bring costs down to the "ready-made" level.

Write today for your free Kewaunee Catalog of equipment for your Laboratories, Vocational and Home Economics Departments. Please indicate whether interested in wood or metal construction. You will appreciate Kewaunee Service, as well as Kewaunee Quality.

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us, and to report the truth in the news and current events from day to day.

In spite of recently increased appropriations for this service, the United States still stands fourth among the nations of the world in broadcasting to foreign countries. Great Britain comes first with nearly three times our total hours on the air; Russia is next with twice as many hours as ours; and Brazil, interestingly enough, is third. Were it not for this governmental service over VOA other people in the world would know little or nothing about us, for there is only one small private system doing international broadcasting about 8 hours a day.

In addition to its broadcasting, the *Voice of America* sends to overseas radio stations some 12,000 transcriptions on records every month, and distributes its printed program schedules

in 8 languages to a total mailing list of 750,000. Evidence that our *Voice* does reach millions of listeners over short wave and medium wave stations is gathered in many ways, but mainly through the 127,000 letters received during the past year. They come chiefly from the democratic countries, of course, but a few come from behind the iron curtain.

There is available to schools and other interested organizations a 15-minute recording describing the purpose and operation of the *Voice of America*. It may be obtained by writing to the U. S. Office of Education, Washington 25, D. C.

NOTE: Permission is granted to State School Board Associations to reproduce the foregoing article provided acknowledgment be given to the SCHOOL BOARD JOURNAL.

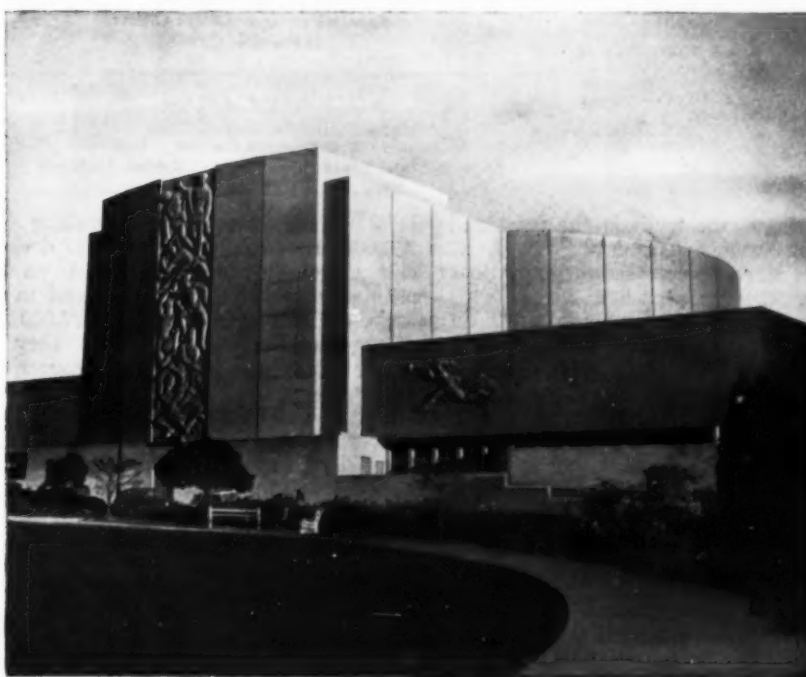


#### FOCAL POINT OF CULTURAL ACTIVITIES

The Community Theatre occupies a dominant position on the Berkeley High School Campus, adjacent to the city's group of Municipal Buildings. It is large enough to accommodate easily high school assemblies and to serve as a setting for cultural, entertainment or civic programs of city-wide interest. Yet, despite its imposing size, the structure has been beautifully integrated with its site.

#### THEATRE—AND PRACTICAL WORKSHOP

The two wings flanking the main 3,500-seat auditorium each serve a definite purpose. One houses a 600-seat "Little Theatre," while the other has complete facilities for a comprehensive music department. These include a radio control room, a radio and television broadcasting room, nine practice rooms and a band room that accommodates 80 musicians.



## Berkeley High School Community Theatre

### *Achievement of Community Vision and Courage*

THE DEDICATION in June 1950 of the Berkeley, California High School Community Theatre marked a notable achievement of community-wide vision, courage and determination. It is at once a tribute to the foresight of the School Board and Citizens Committees which were instrumental in the conception and planning of this center of cultural activities, and to the perseverance of their successors who carried on the undertaking for thirteen years despite the interruption of World War II and the many difficulties of the following years. For this spacious and superbly appointed theatre, which was brought to final form under the guidance of Dr. Thomas L. Nelson, Superintendent of Schools, is not only designed to serve both the school and community but represents a city-wide contribution of time, talent and substance.

*Architects—*HENRY GUTTERSON  
and WILL CORLETT

*City School Superintendent—*  
DR. THOMAS L. NELSON

This installation was arranged by James G. Stanislawsky, Heywood-Wakefield Company, 1355 Market St., San Francisco, California.



### COMFORT FOR 3,500 PEOPLE

The main auditorium seats 2,400 on the main floor and 1,100 in the balcony. It is seated throughout with Heywood-Wakefield TC-700 Auditorium Chairs which were selected for their attractive appearance, sound construction and outstanding comfort. The selection of these chairs reflects the continuing satisfaction which Heywood-Wakefield School Furniture has given in the Berkeley School System over a period of twenty-five years. In various buildings throughout the system, hundreds of Heywood-Wakefield tubular steel desks, chairs and other units are giving efficient, economical service.

On request we will be glad to send a copy of our new catalogue showing the complete line of Heywood-Wakefield Tubular Steel School Furniture and Auditorium Seating. Write to Heywood-Wakefield, School Furniture Division, Menominee, Michigan.



School Furniture Division  
MENOMINEE, MICHIGAN



TC 700

### "PROFESSIONAL" IN EVERY RESPECT

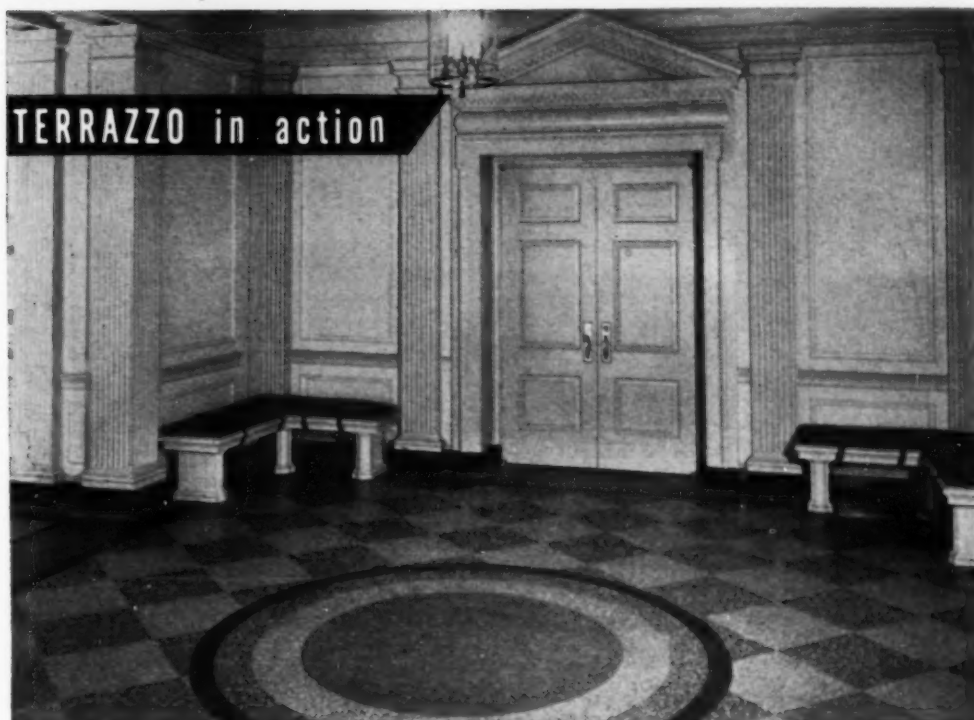
The main theatre has a stage measuring 100 x 55 feet, with a 50-foot proscenium opening 30 feet high. Its complete equipment includes an orchestra platform for 70 musicians which is raised and lowered electrically.

★ ★ ★

Heywood-Wakefield Model TC 700 "Encore" chair selected for Berkeley High School Community Theatre.







Textbook solution  
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AIA Kit, the  
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TERRAZZO.

Time, traffic, and the scuffling of students' feet have no terrors for TERRAZZO. That's why it enjoys the uniformly high confidence of school builders and maintenance engineers. Architects praise its versatility and faithfulness to their color-and-design planning.

Marble-hard and concrete-durable, TERRAZZO adds low maintenance cost to moderate first cost for outstanding economy. Specify TERRAZZO for floors, wainscots, walls and stairs—it stays for life!



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### THE PASADENA FIGHT

The opposition to the progressive educational policies introduced into the Pasadena, Calif., public schools by Supt. Willard E. Goslin, culminated on November 21, 1950 when Dr. Goslin's resignation which had been requested a week previously by the board of education, was offered and accepted. Immediately preceding the resignation, the community was thrown into white heat of emotional interest in the case. A series of hearings by a California State Senate Committee, which was investigating education, together with secret conferences and open meetings of the board of education brought out some of the opposition and the defense of the superintendent.

The controversy over Dr. Goslin's policies

was led by a group known as the Pasadena School Development Council, which claimed to represent 4000 parents and which was said to have the support of 22,000 parents. The Council campaigned for two years against what it designated as progressive education ideas and argued last spring against the proposal, made for the June, 1950, school election, to increase the school tax rate. The Council's point of view was supported by certain citizens who opposed certain books as communistic or at least lacking in full support of Americanism. There was some demand for greater emphasis on the three R's as the core of the instructional program.

The board of education, which had supported Dr. Goslin until early last fall, changed its attitude, and four members joined in a request for the superintendent's resignation.

They held that peace could not be restored or a tax election won so long as the controversy over the administration continued. The request took the form of a telegram which Dr. Goslin received in New York while attending a meeting of the National Citizens Commission for Education.

The California Association of School Administrators, through Herbert C. Clish, chairman of its professional standards committee, denounced the telegram as "lacking consideration of professional standards and poor ethics."

In his resignation statement, Dr. Goslin expressed the opinion that his commitment to representative government through elected members of the community, compelled him to make his resignation available immediately upon receipt of the board's request. "Citizens have," he concluded, "a right to insist for the sake of effective education of their children, that board, administration, and faculty work in harmony." Pasadena, he added, is at the beginning of a great improvement in education.

In canceling Dr. Goslin's contract, the board agreed to pay \$23,250 in lieu of all claims. The president of the board, Milton Wopschall, promised a more conservative regime for the immediate future.

### AKRON BUILDING PROGRAM

The public schools of Akron, Ohio, during the school year 1949-50 carried on a program of maintenance in an effort to keep the schools in the best possible condition. In the course of the year approximately 6000 work orders were written, of which a large number were routine maintenance jobs for buildings and grounds. In addition to the routine work, numerous alteration and major repair jobs were carried out. A good deal of work was given to independent contractors in connection with major repairs, alterations, additions, and new buildings.

A new high school building is nearing completion and will shortly be occupied. An elaborate remodeling job has been undertaken at the Thomaston School. New steel-covered composite buildings were erected at three high schools. The Fairlawn School was enlarged by four classrooms, and work was begun on additions to two further schools.

As monies become available it is planned to carry out modernization plans for lighting, plumbing, and heating in all of the old buildings. During the year 1949-50 lighting improvements were carried out in six school buildings. New toilet fixtures were installed in six schools, and new heating plants in seven schools.

The painting program was carried out according to schedule. Exterior painting jobs are carried out once every five years. During the year exterior painting jobs were carried out on ten buildings. Blackboards have been resurfaced in 19 schools and similar jobs will be done in 15 more schools. Playgrounds have been resurfaced and an experiment has been made at one school with a rubber coating for the playgrounds. A large area at the Margaret Park School was resurfaced with this material in the summer of 1950.

### GONZALES MAKES PROGRESS ON SCHOOL BUILDING PROGRAM

The board of education of Gonzales, Tex., is in the process of completing an extensive school building program, at a cost of approximately \$400,000. The program includes a gymnasium-auditorium for the colored school; new seats for the school stadium; a 12-room elementary school and auditorium-cafeteria; an assembly room-cafeteria and 3 classrooms for another school; and general improvements to other buildings.

# How Do Your Floors Rate?

## Hillyard's QUIZ ON SCHOOL FLOOR MAINTENANCE

Here are 6 questions often asked our expert floor "Maintaineers." Check through this quiz . . . see if your floors are being maintained properly.



1. What should I use to clean traffic marks, dirt and grime from floors, walls, woodwork . . . safely and thoroughly?

**ANSWER: Hillyard Super Shine-All**

An all-purpose, neutral chemical cleaner. Cleans, protects in one easy application. No rinsing. Underwriters' approved.

2. What is your best anti-slip treatment for protecting school floors from heavy traffic?

**ANSWER: Hillyard Hilco-Lustre**

A slip-resistant floor renewer. Leaves hard, glossy finish. Not a wax but self-polishing top coat. Approved by U/L as "Anti-Slip."

3. I need a tough, anti-slip finish for my gym floor. What is universally used?

**ANSWER: Hillyard Star Gym Finish**

Created especially for gyms. Does not darken floor. No glare. Non-skid footing. Choice of 15,000 gyms. Makes excellent dancing surface.

4. What is the best product for removing old varnish or paint from desks and floors without fire hazard?

**ANSWER: Hillyard Kurl-Off**

Zips off old paint and varnish with ease. Non-inflammable . . . Does not raise grain or darken surface . . . absolutely safe for any job.

5. Is there a liquid wax that will give my school floors a long-lasting sheen, but keep them safe for the youngsters?

**ANSWER: Hillyard Hil-Brite**

A liquid wax, easy to apply. Dries bright with slip-resistant finish without buffing or polishing. Flooring manufacturers approve . . . U/L say it is "Anti-Slip."

6. What easy, economical dressing can I use daily to keep school floors looking nice?

**ANSWER: Hillyard Hil-Tone**

A compounded dressing, unsurpassed for daily maintenance of varnished, waxed, sealed or finished floors.

**HILLYARD PRODUCTS: Always the Correct Answer To Your School Floor Problems**



Call, write or wire for the name of your nearest Hillyard "Maintaineer"

**St. Joseph, Missouri, U. S. A.**





### DALLAS CHANGES ADMINISTRATIVE DEPARTMENT

During the summer of 1949 a new administrative organization was put in operation in the Independent School District of Dallas, Tex. Formerly four assistant superintendents had been employed, one in charge of business, one as director of personnel, one in charge of high schools, and one as director of elementary schools.

Upon recommendation of Supt. William T. White, the assistant superintendents in charge of business and personnel retained their same duties in the new organization. The assignments of the other two assistants were changed to be more clearly functional. One of them was placed in full charge of instruction with responsibility for curriculum and supervision, subject only to the superintendent of schools. The other became an assistant superintendent in charge of administration, to handle administrative general problems within policies laid down by the board of education regardless of the level of instruction or type of school.

An entirely new position was created to handle details of administration not coming within the functional work of the other assistant superintendents. The special responsibility of this assistant is the development of annual reports and special publications, and the preparation of information regarding the school program and school activities through the radio, the newspaper, and pamphlet publications. The newspaper reporters will deal with the superintendent of schools and the board in news releases relating to policies.

For a period of five years the principals in Dallas have been working industriously on supervision. Formerly many principals had charge of two or three buildings. The district principalship has now been eliminated so that each building has its own principal with a reduction in geographical responsibility for the principal. An increase has been made in the supervisory functions and principals have been encouraged to attend workshops, and to carry on intensive professional work with a view to better qualification for supervisory jobs.

In keeping with the philosophy that supervision must be a job of consultation rather than one of direction, the directors and supervisors in the school district now carry the title of consultants. They have been relieved of all responsibility for reporting on teachers or making recommendations on teachers. The consultants are available on call, either by the teacher or the principal, they visit buildings, make themselves useful in the instructional program, and exhibit a high degree of leadership in the curriculum work.

### SCHOOL DISTRICTS COMBINED TO FORM JOINT SCHOOL SYSTEM

The Adams County school district of Pennsylvania, numbering 34 districts, have been reorganized into larger administrative units to form seven districts in a new joint school system for grades one to twelve. Nine of the districts are boroughs and have no one-room schools. Fourteen of the remaining districts have closed

the one-room schools. A total of 68 buses are used in transporting the children within the county. In the past decade 133 one-room schools were closed.

The school authorities have found that the larger units of administration have helped to improve the efficiency of the schools. Each school system has a school nurse, a music supervisor, an art supervisor, a psychologist, and a supervising principal. All children are given a physical examination once every two years, by a doctor and a dentist. These services have been provided by the state under the 1947 Health Law.

The administrative department has begun plans for three building programs which are making satisfactory progress at the present time.

The administration of the schools is under the direction of J. F. Slaybaugh, county superintendent of schools of Gettysburg, Pa., and Charles I. Raffensperger, assistant county superintendent.

### LISBON EDUCATIONAL COUNCIL

An Educational Council, composed of representatives elected by the principals has been established by J. L. McBride, superintendent of schools at Lisbon, Ohio. The Council meets monthly with the superintendent for the purpose of promoting better administration in the schools.

With the help of the principals, a county principals' discussion group has been organized, which holds monthly meetings for the discussion of problems encountered in their work.

An in-service training program for teachers has been established under the direction of Superintendent McBride. This program is divided into three special groups: one for primary teachers in grades one to three; one for teachers of grades three to four; and one for teachers in grades seven to nine. Meetings are held three or four times each year and special speakers are invited to appear on the program. A group of 50 teachers was in attendance at the first workshop on November 6. Plans are being made for a series of workshops on the new salary schedule. Work is going ahead on plans for a county school board association.

Plans are being made for a reorganization of the district into 4 divisions to replace the present 12 divisions.

### THE ADMINISTRATION OF FOOD SERVICES IN AKRON, OHIO

The lunch program in the public schools of Akron, Ohio, is operating under a new plan placed in operation in 1949. This program which is under the direction of the department of food services, was developed throughout the city, with centralized buying of food commodities providing greater economy in operation. The menus are distributed from the food service office two weeks in advance.

A Type A menu, or a complete plate lunch, is served in the elementary schools. This lunch provides from one third to one half of the day's nutritive requirements for children, according to the standards of the nutrition specialists. The quantities of foods specified are based upon typical food needs of children 10 to 12 years of age, with adjustments for energy requirements. The same basic menus are served throughout the city and a complete plate lunch can be obtained for thirty cents.

The primary aims of the school food service are: (1) to provide a warm, nutritious lunch at a minimum cost; (2) to serve carefully prepared food of high quality under high sanitary conditions; (3) to improve the health of the children by encouraging better food selection; (4) to furnish educational experiences, not only in food habits, but in social behavior to contribute to better family living. Free lunches are served 4937 indigent children for which a reimbursement of 20 cents is received from the Community Chest.

New cafeterias have been opened in the Ellet and South High Schools and new equipment has been installed in the West Junior High.

### PENNSBURY CORRECTIONAL READING PROGRAM

The Pennsbury high school faculty at Pennsbury, Pa., during the school year 1950-51 is giving special attention to students who have difficulties in reading. A definite time has been set aside so that a teacher may work with small groups and give attention to individuals with special problems.

During the year standardized tests will be given to determine reading weaknesses. A diagnosis of a pupil's trouble may show that he is unable to attack new words, that he reads word by word, that he confuses sight words, that he fails to comprehend what he reads, and many similar deficiencies. Individual conferences between the teacher and the pupil afford opportunity for discussion and understanding of each pupil's particular problems.

Frequently students read well enough but are not interested because the subject matter of the book does not appeal to them. In that case the teacher must guide the pupil toward fields of reading which are of especial interest to him.

Vision difficulties also hinder a pupil's enjoyment of reading. Double vision, alternating vision, ocular discomfort, and neurological defects are a few of the technical terms used to describe conditions of eye and mind co-ordination that hinder reading success.

Frequently emotional upsets or nervous tendencies hinder a pupil's concentration. A pupil who is constantly unable to achieve success in his reading may build up a strong dislike against school because he has experienced failure there. Unhappiness in home or social life may make him unable to concentrate upon reading. Teachers should make every effort to help the student solve the problems that make it impossible for him to do well scholastically.

### PARAGOULD CARRIES ON DIVERSIFIED OCCUPATIONS PROGRAM

A diversified occupations program has been a part of the high school curriculum at Paragould Ark., for the past 12 years. It is an on-the-job training procedure through which the students alternate four periods each day in school and two periods each day on the job to learn a particular trade or vocation. Two periods of the four are spent in study of technical and related subjects which are needed in the mastery of the particular job. Two other academic subjects are carried, allowing a full school load of work to be taken.

The co-ordinator is a supervisor of the work done in the training station as well as in the classroom. The employer agrees to let the trainee work at least 20 hours each week. The trade or occupation must be one which requires two years to learn.

Twenty students have been engaged in distributive education during this year, 1949-50. These students worked 16,834 hours and earned \$9,269.50 during the past school year. Fourteen students were enrolled in trade and industrial education. These students worked 12,441 hours and made \$6,863.07. The grand totals for the department were 29,275 hours and \$16,132.57.

### WOOD-RIDGE HOLDS EDUCATION WEEK

During the first week of November the schools of Wood-Ridge, in Bergen County, N. J., held an observance of Education Week. During the week school patrons and the public were invited to come and visit the schools. In addition to the Open House, a "back to school night" was held for the high school parents on November 6.

During the week the local newspaper, the *Wood-Ridge Independent*, devoted an entire issue to the public schools, focusing attention on American Education Week. Considerable space was devoted to interesting news items on the high school, the history of the schools, the cost of education, and specific subjects and phases of education.





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**American Bodiform Auditorium Chair**  
Combines modern beauty with maximum comfort. No pinching or tearing hazards. Automatic safety-fold action. Greater housekeeping economy.

American Bodiform full-upholstered chairs represent the finest in auditorium seating. Modernly equipped and seated auditoriums multiply attendance, become a center of community life. Here school authorities "meet their public" under the most favorable conditions.

The Bodiform seat is of full-upholstered, spring-arch construction and the back is broad at shoulders, form-fitting at waist, for maximum comfort. When occupant rises, seat rises to a  $\frac{3}{4}$  safety-fold position.

These chairs contribute to better acoustics, because full upholstery compensates for the empty seats in a partly-filled auditorium.

Students are proud of the beauty and comfort of American Bodiform Chairs. In a survey covering more than 100 installations, there was an actual decrease in vandalism.

A wide range of styles, colors, and upholstery materials permits complete harmony with your decorative scheme. Let our experienced Seating Engineers help your planning. Write for full information.

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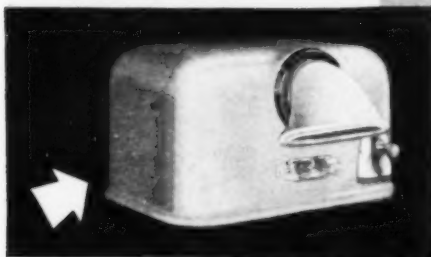
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### THREE BAD PRACTICES

The current revision of the N.E.A. Teachers Code of Ethics condemns three practices of school officers which have been overlooked in past summaries of good relations between teachers and school officers:

Dismissal of a teacher or recommendation of his dismissal by a school officer without giving the teacher ample notice or an opportunity to present his case.

Failure of a school officer to recommend one of his teachers for a position in another community because he does not want to lose the teacher's services.

To accept compensation of value from the purchase of books or school supplies when the administrator or teacher exercises official decisions.

The first two practices are not only wholly unjust; they are the cause of unrest among entire staffs. They are harmful to morale and injurious to teaching efficiency.

### FEINBERG LAW UPHELD

The New York Court of Appeals, on November 29, upheld the Feinberg law, which bars communists and other subversives from employment in the state's school system. The court, in its opinion, concurred in by six other judges, said "we find in the Feinberg law no restrictions which exceed the legislature's constitutional power. Constitutional freedoms themselves are dependent upon the power of constitutional government to survive, and it must have power to protect itself against unlawful conduct, and against incitements to commit unlawful acts."

### BELOIT HOLDS ORIENTATION WEEK

The public schools of Beloit, Wis., held an Orientation Week prior to the opening of school for the benefit of the teaching personnel. This proved valuable in orienting the teachers to the service for the benefit of the children in the community. Other innovations of service to the personnel were guidance conferences, audio-visual conferences, and curriculum clinics, all of which provided in-service training for the teachers of the schools.

One of the important projects was a curriculum and committee setup which had several worthwhile objectives. These were: (1) orientation of new teachers to the curriculum; (2) in-service training for the personnel; (3) a functional curriculum committee; (4) continued evaluation and changes in the curricula; (5) teacher-evaluation program prepared by a committee of teachers, administrators, and board members; (6) a philosophy of education providing a life adjustment program.

All curriculum committees meet on school time. Substitute teachers are used for personnel engaged in work on committees, which meet one half day each month. Subcommittees meet as often as the need arises, or at least once a month, preferably in the afternoon.

### AN ANALYSIS SHEET FOR EVALUATING TEACHER PREPARATION

The board of education of Leavenworth, Kans., has approved an analysis sheet, prepared by Supt. Hugh C. Bryan, for use in evaluating the preparation of elementary school teachers. Before employing a teacher in the elementary schools a transcript is made of a special blank outlining the professional courses and other special courses taken by the teacher and directed toward elementary teaching. Over a period of four years, the blank has been found most useful in evaluating teacher preparation.

A copy of the analysis is kept in the personnel folder in the office and another copy is supplied the teacher. Specific recommendations are made concerning courses the teacher may take in order to become a more effective teacher.

For teachers who are established in the system, the blank has been worked into the salary schedule in such a way that only those teachers who are fully prepared for their work are raised to the higher brackets. In the employment of new teachers, the selection is limited to those who are specifically prepared to teach in the elementary schools.

While the choice of teachers available is somewhat limited through the process, the superintendent and the board feel that it is one of the most useful practices developed to improve the quality of teaching at the elementary level.

### TEACHERS HAIL KERMIT WORKSHOP

How to prepare the teacher so that she will be able to prepare the pupil has long been a problem in the schools. In Kermit, Tex., school authorities and teachers have hailed the results of a unique teacher's workshop, held from August 31 through September 2, as a means of warming up the new teachers and preparing the Kermit plant for a student population of 1561 students.

Coupled with the workshop is pre-enrollment, which has enabled the school principals to enroll 1369 students before the teachers reported for duty, to talk with parents on the courses of study, and to explain the details of the school without confusion, hurry, or disorder.

The workshop was of one day's duration in 1949 but was expanded to 2½ days in 1950. A cross section of teachers participating in the workshop reveals the nature of its success. New teachers were especially enthusiastic about the way it prepared them for school, helping them to get acquainted, and previewing the school activities. It gave the teachers confidence in their work and saved the principals endless hours of explanation.

The workshop was a combined social, business, and didactic conclave. Handbooks, sectional discussions, and talks featured the program for the several days. At the general faculty meeting the superintendent, Tom Thompson, explained the general policies of the school. The discussions featured such explanations as how to teach reading, how to obtain teaching materials, how to make out reports, and how to use duplicating machines. A fitting climax was the faculty meeting with the superintendent in charge.

### TEACHERS AND ADMINISTRATION

► The Selective Service has passed a new regulation which makes it possible for a teacher to be deferred from the draft because of a civilian occupation. A teacher may be placed in Class II-A whose employment in industry, or other occupation or employment is found to be necessary to the maintenance of health, safety, or interest. All Class II-A deferments are for a period of one year or less.

The Philadelphia Orphans' Court has been asked to broaden the definition of teacher to permit the Philadelphia board of education greater leeway in distributing a fund left by Simon Gratz to aid needy teachers and clerical assistants.

The court has been asked to allow the board to assist museum teachers, home teachers, attendance officers, home and school visitors, school counselors, school librarians, school nurses and dental hygienists, as well as clerical assistants. Gratz, former president of the board of education, died in 1926 and left an estate of \$831,000. The bequest for the benefit of teachers was one third of the residuary estate. The teacher fund amounted to \$203,815 in 1949. Income that year was \$8,868 and 29 persons received allotments up to \$400.

► At Nehalem, Ore., the school board has set up a sick-leave benefit fund, which allows pay for four days' absence for each teacher at approved substitute level. After four days the teacher pays the substitute at the approved level out of her own salary.

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The chair desks are designed for comfort, convenience and correct posture. Fine quality materials, skilled craftsmen with modern machinery assure a great durability.



Griggs SKYLINER "All-Ages" chairs (at left) will harmonize with every classroom setting. Come in 4 sizes, from 17-inch seat height to 11-inch.

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Griggs offers popular tubular seating in tables and chairs that please everyone. A table



### *Griggs Window Shades*

Popular Griggs window shades, correctly designed to eliminate glare, are made in several styles—single and double shades and shades for visual education.

*Tubular Seating*

and chair combination is pictured at right. Griggs tubular seating is available in a variety of desks and chairs.



### *Griggs Auditorium Seating*

Griggs STARLINER Auditorium chair, designed with a low sweeping back to prevent students scuffing the seat from behind, is ideal to complete a beautiful auditorium. Seat is self-rising. Variety of backs, seats and end standards offered. A truly fine auditorium chair!

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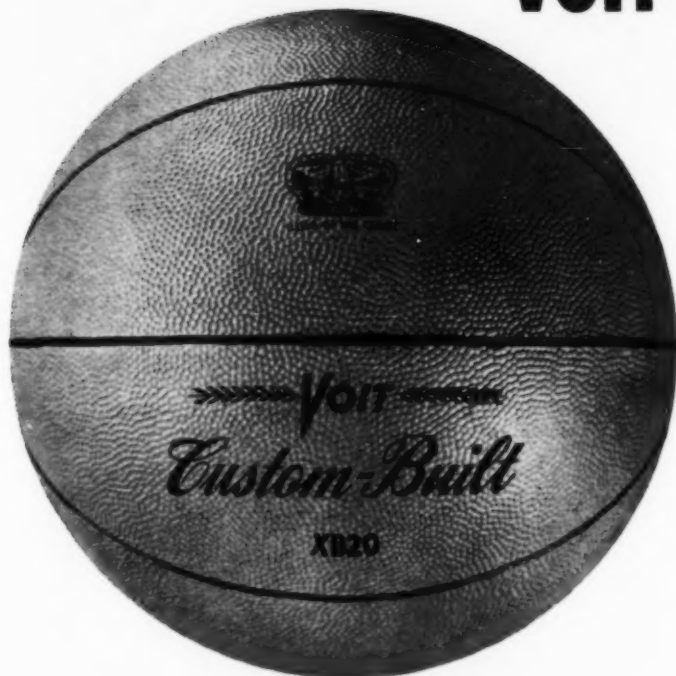
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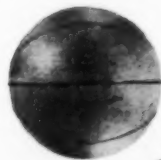
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### PHILADELPHIA RAISES SALARIES

New Year's Day will mark the beginning of a new salary schedule for employees of the Philadelphia Board of Education. All teachers will receive a \$200 increase and other employees will receive from \$100 to \$200 increases.

In adopting a record budget of \$56,704,657 for 1951 the Board also provided for another \$200 increment to about 70 per cent of the 7300 teachers to take effect in July and to bring them up to the new maximum.

The pay boost adds about \$2,100,000 to next year's budget which exceeds this year's by nearly \$3,000,000. An item of \$1,543,300 was included to pay off deficits from 1948 and 1949.

The \$200 increase raises teacher salary schedules as follows: those without a college degree from \$3,800 to \$4,000; with college degree, from \$4,200 to \$4,400; with master's degree, from \$4,600 to \$4,800.

Raises in administrators' maxima as follows: elementary school principals, from \$6,300 to \$6,600; junior high principals, from \$6,800 to \$7,100; senior high principals, \$7,300 to \$7,600. Maxima for directors of divisions and district and associate superintendents will be upped \$500.

New maxima for secretaries range from \$2,580 to \$3,725, depending upon classification. Twelve-month secretarial employees will get a \$150 increase, and those who work ten months, \$120 in January. Those not at their maximum will get similar increments in July, as will all other employees under the salary schedule.

For other employees, not on salary schedule, raises will be as follows: *Dietitians*, \$200 yearly increase. Other cafeteria help, seven cents an hour for all and the minimum upped from 50 to 60 cents an hour. *Custodial*, \$200 to full-time employees, and no increase less than 5 per cent. *Cleaners*, \$104 for half time; \$52 for quarter time. *Maintenance*, nine cents an hour, with the lowest hourly pay, \$1.05.

School taxes for 1951 will be the same as this year, the maximum allowed by the State Legislature. They are: real estate, 12¼ mills, equal to \$1.27½ on each \$100 of assessed valuation; four mills on personal property and one mill on general business receipts.

### TEACHERS' SALARIES

► At an election in November, the voters of Bexley, Columbus, Ohio, approved a 3-mill tax levy in order that teachers' salaries might be increased in January, 1951. Supt. E. D. Jarvis reports that the new schedule offers minimums of \$2,600 and \$2,800 for teachers holding a bachelor's or a master's degree. Teachers will reach the maximums of \$4,700 and \$5,050 for these groups after a period of 15 years' experience. The annual increments have been set at \$140 and \$150 for those with a bachelor's or a master's degree respectively.

In addition to the basic schedule, allowances of an extra \$100 are given for each 18 semester hours beyond the master's degree, provided the latter is work taken toward a Ph.D. degree. Besides these allowances, pay is given for extra services, including duties outside the regular school day requiring added responsibilities and extra time. These allowances vary from \$75 to \$100 per extra duty.

► Clayton, Mo. The board of education has approved a new salary scale pegged on the government's cost-of-living index. The new schedule which is retroactive to July 1, 1950, affects 200 employees, and will cost \$30,000 a year.

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8. Automatic reset feature for secondary clocks allows individual setting — not only groups — keeping all clocks together.
9. Entire system is simple in design; fewer parts to require attention.



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► St. Louis, Mo. The board of education has approved a \$200-a-year salary increase for all teachers and monthly employees. The increases go to 2000 teachers and 1000 nonteaching employees. The full \$200 is to be prorated over the remainder of the school year and will become a permanent part of the salary schedule.

► Teachers and professional employees of the school district of Brackenridge, Pa., have been given increases of \$100 for the school year 1950-51. The increases are over and above the state increase of \$200 given in September.

► Tulsa, Okla. Salary increases, ranging from \$5 to \$10 per month, have been given 1875 teachers and school employees. The cost-of-living adjustment, effective for the period from October, 1950, to March, 1951, will cost \$96,500.

### WILLIAMSPORT HOLDS DIRECTORS' WORKSHOP

The county public schools of Williamsport County, Pa., held a workshop for school directors December 16, 1950. The program was most interesting and helpful to individual members and the boards as administrative units.

Five sectional groups discussed separate topics, including (1) administration and policies, (2) child accounting, (3) curriculum, (4) transportation, and (5) audio-visual aids. Among the problems discussed were failing pupils, the organization for secondary grades, cause and cure of dropouts, work experience programs, changes in curriculum, education of the handicapped pupil, school-bus administration, audio-visual aids, and guidance programs.

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Revolutionary new 1951 Superior Pioneer School Coaches—custom-built for the chassis of your choice—are already rolling off the assembly lines. So don't delay—get in touch with your nearby Superior Distributor or fill in the coupon below, and mail it, today.

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- ☐ Please send me complete information on the new 1951 Superior Pioneer Custom and Master Custom models.
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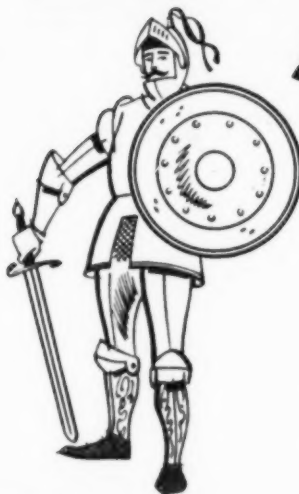
## NEW SUPER GUARD FRAME



Extra strength at every point—that's the new **Super-Guard Frame**, exclusive with Superior Pioneers. Advanced engineering, stronger structural members, and complete integration of all frame assemblies by welding combine to provide utmost protection, especially in the critical areas. Special, heavily reinforced construction localizes and minimizes impact from any direction.

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## NEW SAFE-T-SHIELD PANELING



Never before have the tough outer and inner steel panels of a school bus been used to such great advantage for shielding the passengers. Panels most apt to receive impact are ribbed and specially engineered for extra ruggedness. Larger outside panels—unified by closer-spaced welding and riveting to frame—greatly increase coach strength and make whole exterior one large Safe-T-Shield.

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## NEW UNIBILT BODY

Feature after feature has been specially designed to make this the **first school bus body completely integrated for maximum resistance to impact and torsion**. Not only are all frame assemblies welded together as one structure, but outer and inner panels are more closely integrated with the frame and with each other. Thus, each part is reinforced by all the others, for solid fortress-like safety.



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## NEW PUBLICATIONS for School-Business EXECUTIVES

### Handbook for School Custodians

By A. D. Brainard. Paper, 262 pp., \$1.75. University of Nebraska Press, Lincoln, Neb.

This is the third edition of the most practical handbook on janitorial work in school buildings now available. Quite rightfully, it is the fifth printing and has been completely revised to include suggestions and additions recommended by supervisors of janitorial staffs and practical school janitors. The previous arrangement has been maintained and the first six chapters are devoted to administrative problems of custodial

service. Chapters VII and VIII discuss cleaning and maintaining buildings; Chapter IX takes up the treatment and care of floors and dusting of school buildings; Chapter XI discusses painting; Chapter XII, heating and ventilating and the operation of boilers and furnaces; Chapters XIII and XIV present the principles and practices of fire prevention and accident prevention.

The operation and maintenance of artificial illuminating services is the subject of a practical chapter, which discusses present theories and describes the care of illuminating units.

The conservation of equipment and supplies and the maintenance of various sections of buildings are outlined in Chapter XVI and XVII.

The development of attractive school grounds through the care of lawns, the planting of shrubbery and trees forms the subject matter of the final chapter, which is sketchy but fully adequate for most situations.

Throughout, the book is complete and practical and reflects the experience of a great number of men and women who have learned by bitter experience the necessity of selecting good materials and doing a painstaking day-by-day job. The book should be in the hands of every school building superintendent and should be a part of the working tools of the janitor in every large building.

### Civil Defense

November, 1950, issue of State Government. Published by the Council of State Government, Chicago 37, Ill.

This summary of plans in the several states for civil government outlines the federal civil defense plan and discusses minor problems. Worth reading by school-business executives.

### Sources of State Tax Revenue, 1950

November, 1950, Bulletin, State Finances G-SF50, No. 5. Bureau of the Census, Washington 25, D. C.

A tabular bulletin giving a statistical statement of the 9 billion dollar tax revenue collected by state governments during the fiscal year 1950. The figures are preliminary and without interpretation.

### Units of Instruction for Custodial Work

Eleven pamphlets. Total price, \$14. Published by the Department of Vocational Education, Denver Public Schools, Denver, Colo.

This series of instruction units is the outcome of many years of co-operation, of observing the best methods of doing custodial work, and of recording the effective methods of teaching good methods of sweeping, of firing boilers, of doing the thousand and one jobs which together make for efficient and economical school building maintenance.

The present booklets are 11 in number and consist of specific lesson sheets of the (a) job analysis, (b) operation outline, and (c) related information types. They are based on extensive analyses of the several major areas of knowledge and work, and are intended to insure comprehensive understanding and a high degree of skill in the student. The courses can be taught only with the aid of actual performance of the jobs listed. Tests are provided to determine the student's skill and timing as basic for further instruction or a passing grade to meet employment standards. Considerable use is indicated of models, motion pictures, excursions to observe skilled men at work and to inspect building installations. While much of the material is self-explanatory and can be used independently, special assistance and individual instruction may be needed for many students. The courses are intended to save time by devices which enable the student and instructor to pass on principles and operations in units which the student understands and has acquired ample skills.

The units constituting the courses include

- I. *School Housekeeping*
  1. Sweeping and Dusting
  2. Floor Maintenance
  3. Washing
  4. Classroom Mechanics (servicing and adjusting shades, toilet paper holders, pencil sharpeners, Venetian blinds, soap dispensers, vending machines, unit ventilators, eraser cleaners, etc.)
- II. *Heating and Ventilation*
  1. Firemanship (firing and cleaning boilers, seasonal operations, etc.)
  2. Heat and Air Control (caring for and repairing or replacing traps, pumps, compressors, unit ventilators, etc.)
- III. *Plumbing Repair and Maintenance*
  1. Flush Devices
- IV. *Carpentry*
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- V. *Electrical Work*
  1. Repair and Maintenance of Electrical Motors, Fixtures, and Controls.
- VI. *Painting*
  1. Varnish and Paint Jobs
- VII. *Novelty Work*
  1. Repairing Hardware

(Continued on page 82)



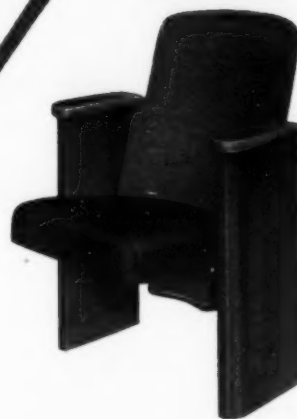
## THE MARK OF COMPLETE SATISFACTION IN SCHOOL SEATING EQUIPMENT



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No. 254 is the only movable desk adjustable 3 WAYS to fit all students. Adjustable for height of bookbox, for height of chair, and for distance between bookbox and chair. Equipped with a unique "Self-Leveling" device which eliminates rocking or jiggling occasioned by unevenness of floors, swivel seat with adjustable tension and many other highly desirable features.

Scientifically designed for correct posture and attractive appearance. Constructed of the toughest lightweight metals and multi-ply hardwoods for lifetime service. Ideally suited to modern classroom methods and practice, auditoriums and gymnasiums. Priced for maximum value. Write for catalog of complete line.



### AUDITORIUM CHAIRS

No. 2241-1 — Designed to harmonize with any architectural design. Also furnished with full upholstered back or ply-wood seat.



No. 2142-4 — New Streamlined unit of fine quality with silent ball bearing hinge — upholstered seat and back also available.



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### STEEL MOVABLE *Suntan* DESKS

Equip your schools with Peabody No. 260 Steel Movable Desks and you equip them with the most efficient, most comfortable, and most attractive seating money can provide. Examine this quality seating. See how sturdy it is built. Notice the desk lids do not slam — look at the comfortable seat and notice how both seat and desk are independently adjustable. The adjustment feature is positive — cannot slip. Only persons responsible for seating can adjust them. No bolts — no butterfly nuts for children to loosen.

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In keeping with the desire for brighter, cheerier classrooms, No. 260 Steel Movable Desks are available in the gorgeous new SUNTAN finish. The desk tops, seats and backs are also given a CELSYN coating — a coating so hard and tough it resists scratching to a remarkable degree. Write for complete information on No. 260 Steel Movable Desks.

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The PEABODY Line is a complete quality line of school seating, desks, chairs, tables, teachers' and administrators' desks and folding chairs. From this one manufacturer purchasers of school equipment can buy all necessary school furniture and be protected by the PEABODY ironclad guarantee of superior quality, workmanship, material and correctness of design.

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No. 33  
No-Tip Steel  
Folding Chair

**THE PEABODY SEATING CO., INC.**  
BOX 1 NORTH MANCHESTER, INDIANA

#### PUBLICATIONS

(Concluded from page 80)

#### Citizens' Committee Activities in New Jersey School Districts, 1949-50

Compiled by Ralph P. Gallagher. Paper, 7 pp. Published for the New Jersey Education Association by the author at Bound Brook, N. J.

The extent of help given schools by volunteer committees in New Jersey is indicated in this report which shows that nearly 10,000 men and women worked in 216 groups organized in 97 school districts during the year 1949-50. The committees led in part by the superintendents and/or the school boards and in part by their own members produced some "headaches" and many good results. Gallagher shows that they were active in 23 types of work; he records 36 tangible and 17 intangible types of valuable results. Citizens' groups, he concludes, are valu-

able and should be developed but they need help from some official organization, for example the State Department of Education, which has an overview, can critically evaluate programs and techniques, and recommend objectives, etc.

#### Safeguarding Local School Funds

By James W. McGrew. Paper, 20 pp. Published by the New Jersey Chamber of Commerce, 605 Broad St., Newark 2, N. J.

An outline of a plan for auditing the accounts of New Jersey school districts. Contains recommendations for laws that would require local school audits. The study shows that a complete audit of all school districts would cost \$175,000 a year, or about \$80,000 more than is now being spent for this service.

#### State and Local School Finance Programs, 1949-50

Issued by Division of School Administration and School Finance Section. Published by the U. S. Office of Education, Washington 25, D. C.

A presentation of individual reports received from the states and the District of Columbia concerning policies, procedures, formulas, and peculiarities of the school finance programs in the several states. There is a summary of state school appropriations giving the classification and name of fund and the distribution plan.

#### State Boards of Education and Chief State School Officers

By Ward W. Keesecker. Paper, 114 pp., 30 cents. Bulletin No. 12, 1950. U. S. Office of Education, Washington 25, D. C.

A bulletin outlining the basic legal principles and organization of state systems of education and offering available information concerning educational legislation on the subject. It contains a summary of the functions and duties of state educational agencies and officials.

#### Construction Costs of 69 School Buildings Completed in 1947-1950

Paper, 19 pp. Bulletin No. 11, 1950. Research Division, National Education Association, Washington 6, D. C. This study of 100 school buildings sought to obtain cost items, and details on size and type of construction of buildings. Of the total, 69 are described, and of these, 50 are elementary schools, 8 are junior high schools, and 5 are senior high schools. The information for each of the buildings includes number of rooms, pupil capacity, square feet of floor space in classrooms, cubic feet for entire building, number of floors, and type of construction.

#### Snow Melting

By T. Napier Adlam. Cloth, 224 pp., \$4.50. The Industrial Press, New York 12, N. Y.

Test data presented in this book indicate that steam pipes embedded in a concrete walk may be employed in melting snow because 70 per cent of the heat transmitted by the pipes is usefully at work in melting the snow; 8 to 10 per cent is given off to the atmosphere, and 20 to 22 per cent is lost downward into the earth. According to the location, successful practice suggests the use of 1 1/4-in. pipes, placed 20 in. apart and 4 in. below the walk surface. To overcome the danger of freezing, an antifreeze material is introduced into the water.

Up to the present time, the most successful installations for snow melting have been those surrounding office buildings, factories, and high-grade residential property. Particularly good satisfaction has been obtained in entrances to garages and loading platforms, and in the neighborhood of railroad underpasses where snow might accumulate to the obstruction of traffic. Finally, excellent results have been achieved on railroad loading platforms.

The present book presents the latest practice in northern states. The most valuable section is the summary of design procedure and the definite engineering data for working out pipe layouts in various types of pavements for varying degrees of temperature. Two types of automatic starters are described.

School authorities should find snow melting installations of value in pedestrian and driveway entrances to schools with steep gradients and under bus loading platforms.

#### City Government Finances in 1949

Prepared under the supervision of Allen D. Marvel. Paper, 98 pp., 40 cents. Superintendent of Documents, Government Printing Office, Washington 25, D. C.

This Annual Compendium summarizes the facts concerning the income, borrowing, and expenditures of all cities of 25,000 population and upward. Data concerning the schools are included.

The report indicates that general revenue in the 397 cities was 470 million dollars less than the general expenditures, and the general revenue for debt retirement was less by 195 million dollars, plus the expenditures for principal and interest. Revenues have been growing steadily since 1942 as have expenditures. The total debt which dropped from 8 billion dollars in 1942 to slightly more than 7 billion dollars in 1946, is now 7.8 billion dollars.

#### A Study of Public School Building Needs in Sheridan, Wyoming

By E. B. Sessions and John W. Shreve. Paper, 88 pp. The Bureau of Educational Research, College of Education, Ohio State University, Columbus, Ohio.

A report of an extended survey of the school system of Sheridan, Wyo., which included a study of the community, the educational program of the schools, the school population, the school plant, the ability of the community to support a building program, and recommendations for the improvement and extension of the school plant. Included also is a study of the total enrollments, room and capacity use of school buildings. The community has an unused bonding capacity of \$206,000 which is sufficient to meet present needs for additions and remodeling.



## NEW METHOD makes moppets love math!

7 year olds can't get  
enough when taught  
on calculators!

Hunter College  
Educators hail  
new Monroe  
technique!

Educational history was made recently in New York's internationally famous teaching laboratory, Hunter College Elementary School. To learn whether arithmetic, that least loved of the three R's, could be made more popular, teachers gave youngsters the chance to check their pencil-and-paper answers on calculating machines.

Results were startling. Children became fascinated with the simple Monroe Adding-Calculator, Educator model . . . were intrigued by a method that combines the teaching of arithmetic with the mechanical lure of the Educator. Monroes suddenly made mathematics "fun," but more important, two-thirds of the children showed a marked improvement in arithmetic!

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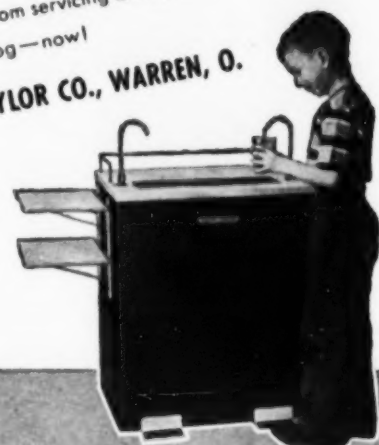


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## SCHOOL LAW

### Schools and School Districts

A "school district" constitutes a body corporate, a quasi-municipal corporation, which is an agency of the commonwealth for the performance of prescribed governmental functions, being created and maintained for the sole purpose of administering the commonwealth's system of public education, and school directors are appointed or elected to serve that one, and only that one, public purpose.—*Borough of Wilkesburg v. School Dist. of Wilkesburg*, 74 Atlantic reporter 2d 138, 365 Pa. 254.

The fixing of boundaries of a school district is a local affair which may be left to the rule of the people under a general law providing for the creation of school districts throughout the state. Mo. R.S.A., §§ 10449.1 to 10449.15.—*State ex rel. Reorganized School Dist. No. 4 of Jackson County v. Holmes*, 231 Southwestern reporter 2d 185, Mo.

A petition for the dissolution of a school district and annexation of its territory to another district was properly dismissed on the ground that it did not bear the signatures of a majority of qualified electors of the dissolving district. Ark. statutes, §§ 80-408, 80-418.—*Beene v. County Bd. of Education of Columbia County*, 231 Southwestern reporter 2d 594, Ark.

The Texas district court's supervisory powers over actions of the county board of school trustees will be exercised by the court to prevent or correct the action of the trustees only when the trustees have exercised their power of districting in harsh and arbitrary manner that

amounts to an abuse of discretion. Vernon's ann. civ. statutes, art. 2686.—*Board of Dist. Trustees of Lanier Common School Dist. No. 49, Cass County v. Board of County School Trustees of Cass County*, 232 Southwestern reporter 2d 100, Tex. Civ. App.

### School District Government

Where a member of the county board of education appeared before the board and tendered his resignation in order to remove himself so that another person could be appointed, and another person was appointed and undertook to act as a qualified member of the board, the office was "abandoned" by the member who tendered his resignation.—*Hall v. Allen*, 231 Southwestern reporter 2d 702, Ky.

Membership on a board of education is a public office. Ga. code Ann. § 32-1104.—*Conley v. Brophy*, 60 Southeastern reporter 2d 122, 207 Ga. 30.

A school district is a public corporation with very limited powers and it may, through its board, exercise only such authority as is conferred by law, either expressly or by necessary implication.—*Abshire v. School Dist. No. 1 of Silver Bow County*, 220 Pacific reporter 2d 1058, Mont.

School trustees may lawfully exercise only such powers, as the law confers upon them and the statute granting such powers must also be regarded as a limitation upon the powers granted.—*Abshire v. School Dist. No. 1 of Silver Bow County*, 220 Pacific reporter 2d 1058, Mont.

School trustees are bound to know that they cannot go beyond the limitations which the law has placed upon them.—*Abshire v. School Dist. No. 1 of Silver Bow County*, 220 Pacific reporter 2d 1058, Mont.

Where at a meeting of a school board at which the superintendent of schools allegedly tendered his resignation, a record of proceedings was not kept as required by the Ohio statute, and the clerk of the board did not publicly

call the roll of members composing the board and enter on the records the names of those voting aye and the names of those voting no as required by the statute, the proceedings of the board pertaining to the resignation of the superintendent were a nullity. Ohio general code, §§ 4834-1 to 4834-3.—*Schafer v. Board of Education of Alliance City School Dist., Stark County*, 94 Northeastern reporter 2d 112, Ohio Com. Pl.

An "abuse of discretion," as by school directors, implies not only erroneous conclusion, but such conclusion caused by temper, humor, caprice, passion, prejudice, perversity, discrimination or partiality, and exercise of honest judgment, based on facts carefully considered and innately reasonable, does not constitute such abuse.—*People ex rel. Ball v. Johnson*, 94 Northeastern reporter 2d 444, Ill. App.

A wide range of judgment and discretion must be vested in school officers as to government and details of conducting schools, so that their authority may be efficiently and effectively exercised.—*People ex rel. Ball v. Johnson*, 94 Northeastern reporter 2d 444, Ill. App.

The California statute requiring members of a school district governing board to have two days' notice of special meetings does not require the public to be notified. Calif. Education Code, § 3194.—*Alva v. Sequoia Union High School Dist.*, 220 Pacific reporter 2d 788, Calif. App.

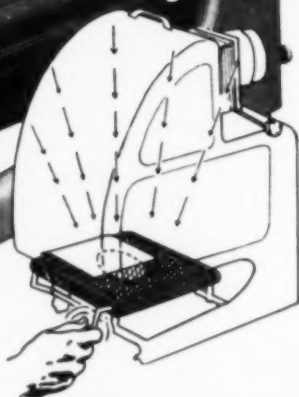
Where the date of a special meeting of a board of trustees of a school district to discuss personnel problems was fixed at a regular public meeting, such notice to the public was sufficient.—*Alva v. Sequoia Union High School Dist.*, 220 Pacific reporter 2d 788, Calif. App.

In determining its policy and formulating rules and regulations for the government of the schools, a board of education is not circumscribed by any limitation, except that it may not contravene the Constitution and laws. Ohio General Code, § 4834-5.—*Dworken v. Cleveland board of education*, 94 Northeastern reporter 2d 18, Ohio Com. Pl.

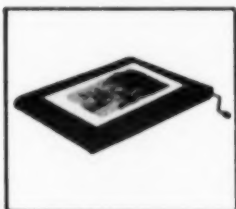


## ELIMINATE MOUNTING AND PICTURE HOLDERS WITH

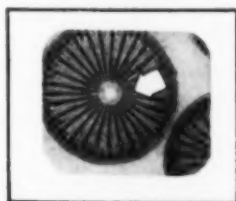
# *Beseler* VU-LYTE Opaque Projector



Fan action of the Beseler VACUMATIC PLATEN\* not only holds copy flat during projection, but keeps interior of the projector unusually cool.



FEED-O-MATIC\*  
CONVEYOR—



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1. YOU CAN use the VU-LYTE in a partially-lighted room. Total darkness is unnecessary in order to obtain clear, sharp images and brilliant colors—because VU-LYTE provides extra illumination.

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3. YOU CAN project a lighted arrow onto any part of the illustration by means of the new Beseler built-in POINTEX\* POINTER—thereby pointing out details without leaving the projector.

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All copy is held absolutely flat on the VACUMATIC PLATEN of this ultra-modern Beseler VU-LYTE during projection, through suction created by a special fan.

There is no need to spend time pasting and mounting copy—or inserting copy into holders. You simply introduce your copy onto the platen, and there it "stays put" without curl or flutter.

As you handle the superb new VU-LYTE, you'll appreciate the exceptional advantages of this VACUMATIC PLATEN. It's one of the exclusive Beseler developments that make the VU-LYTE the most modern and most versatile of visual teaching tools.

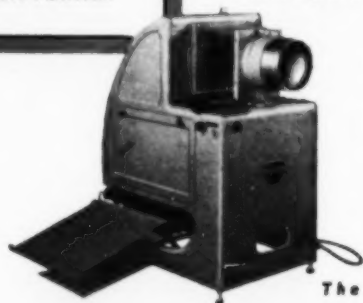
Yes, Beseler explored every line in bringing you a projector that gives top-notch results with maximum ease and economy of operation.

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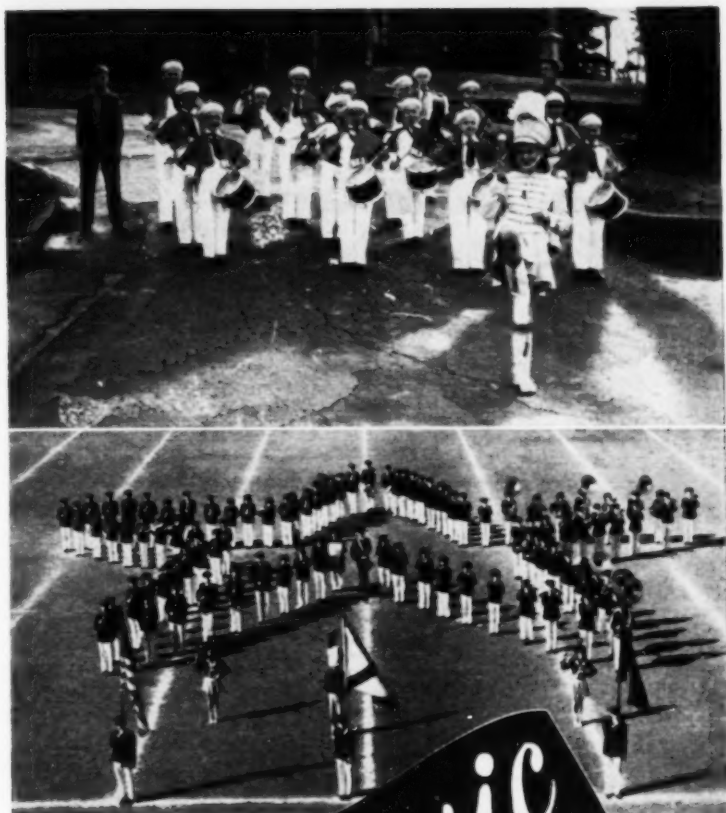
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### DALLAS COMPLETES EXTENSIVE BUILDING PROGRAM

The board of education of the independent school district of Dallas, Tex., is in the process of completing a \$26,500,000 building program. Most of these buildings are intended for elementary children. Comprehensive in their planning, all of them include an auditorium, a gymnasium, a lunchroom, a visual-education laboratory, a library, a special suite for beginning children, and special rooms adapted to an enriched program.

In Dallas, the needs of all children are being met as rapidly as possible, regardless of race or location within the city. In fact, the Negro buildings in some instances are better arranged than the white buildings. This is particularly true in the high schools. Both Negro high schools have two gymnasiums, while the white high schools have only one.

### THE HOUSTON SCHOOLS LOOK AHEAD

The public schools of Houston, Tex., opened for the school year 1950-51 with 90,044 pupils, which was an increase of 4000 pupils over a year ago, and will probably go to 116,677 pupils in 1955, and to 132,169 in 1960.

The school board is bending its efforts toward keeping up with this expanded growth. Under its expanded building program, a total of 61 buildings or additions have been completed at present and several new buildings are planned for areas where the housing need is greatest. To help meet the pressing needs of housing for an overflowing population, 20 schools and additions were completed and occupied last fall. These schools comprised both elementary schools and senior high schools and were erected for varying amounts, ranging from \$198,000 to \$2,074,356.

Supt. W. E. Moreland and his staff have made an extensive study of building needs covering the period from 1951 to 1955. The survey was conducted by Dr. Henry J. Otto and Dr. J. G. Umstattd, of the State University, and included recommendations for the guidance of the board in its building program. It is anticipated that the citizens will vote the necessary funds for the completion of the present gigantic building program of the school district.

### KERMIT BUILDS SENIOR HIGH SCHOOL

At Kermit, Tex., a new senior high school building is nearing completion. In addition to classrooms, the building will be provided with a gymnasium seating 1300 persons, a band hall with stage, library, and practice rooms, administrative offices, a commercial department, a homemaking suite, and an auditorium seating 1321 persons. Adjoining the main building is a vocational shop building, with facilities for woodworking, metalworking, machine-shop practice, mechanical drawing, and welding. The lighting is of the louvered fluorescent type, pastel colors and light-colored furniture is used in the classrooms, and desks are of steel with plastic tops. Corridors have terrazzo floors and classrooms are provided with asphalt floors in varying shades.

### SCHOOL BUILDING NEWS

► Voters of the state of Washington have approved a proposal for the issuance and sale of state general obligation bonds up to \$40,000,000 for the furnishing of funds for state assistance in providing school plant facilities. The bonds may be issued at any time prior to 1960 and will be funded over a period of twenty years from the date of issuance by revenue from the state's retail sales tax. The aid will be given to

## KLEENCUT

### SUPPLIES THE NATION'S SCHOOLS

Scissors designed by experts, and in accordance with the recommendations of the nation's educators, fit your children's needs.

It is our business to know the correct Scissors to fit the needs of children of all grades. Millions of pairs (more than all other manufacturers combined) have supplied the constant and growing demand for quality Scissors at an economical cost.

For 75 years The Acme Shear Company has been the leading supplier of Scissors for the schools of America.

No other country in the world can match our American School System, its management, teachers, plant and equipment.

As members of The National School Service Institute, we and other manufacturers of school equipment, have pledged ourselves to produce the very finest tools for your children, so that they may become creditable citizens, who will continue and improve on the splendid accomplishments of this and past generations.

*Four pairs of famous nationally advertised  
KLEENCUT Scissors illustrated have proved the  
most useful for school use:*



**A. BLUNT**, or Safety Scissors, for little hands. For kindergarten and lower grade tots. 4-inch size. Adjusted to cut both paper and cloth with ease.

**B. SEMI-SHARP** Pointed Scissors for 3rd, 4th and 5th grades. 4½- and 5-inch sizes. One blade sharp pointed and one semi-blunt for safety. For cutting both paper and cloth.

**C. SHARP POINTED**—Fine Pointed Scissors for 6th, 7th and 8th graders. 5- and 6-inch sizes. Sharp and easy cutters for larger children. Especially popular in art and sewing classes.

**D. DRESSMAKERS'** Shears, made in both Straight and Bent styles with clip point, are most useful in home economics and manual classes. 7- and 8-inch sizes. Sturdy blades for cutting heavy materials and for following patterns.

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local school districts in varying amounts, from 25 to 75 per cent of a building's cost, depending on the district's wealth per educational unit.

► Voters in West Virginia have approved an amendment liberalizing restrictions on the issuance of bonds for school construction. Under the law, a county, by a 60 per cent vote, can exceed its present constitutional levy limitations to service school bonds.

► In Oregon a law has been passed to increase the basic school support fund. This law levies an annual property tax outside the 6 per cent limitation in an amount which will produce \$30 a month per capita in addition to the previous levy of \$50 per capita for children of the state between the ages of 4 and 20 years.

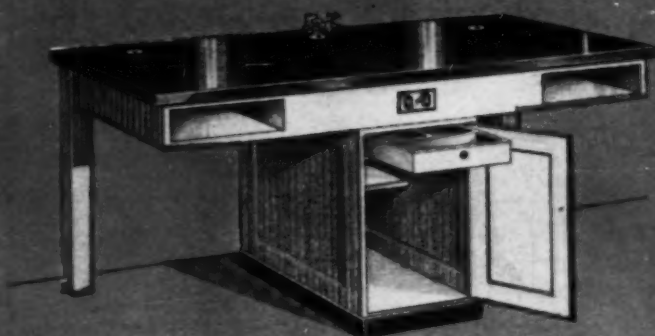
► Gardner, Mass. The Perley F. Gilbert Associates, architects of Lowell, have prepared plans and specifications for a series of new building projects, including a junior high and elementary school, a four-room annex to an elementary school, and an addition to the high school gymnasium. Plans for the construction program were made following a survey of the school facilities by a city-wide committee appointed to study the situation and report to the board. The study included an appraisal of the school plant and a study of enrollment trends.

► The Bexley city public schools of Bexley, Columbus, Ohio, have completed a million-dollar building program.



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Comfortable accommodations for two students in a combined laboratory-classroom used for any of the sciences. Individual book spaces; removable compartmented equipment tray; generous size cupboard with shelf. Duplex A.C. outlet; double gas cock; plates for 19 mm upright rods (available separately). Birch construction, finished Golden Brown.

L-2234 4-student Combination Science Desk



Reduce your equipment-cost-per-student with these desks which accommodate 4 students in 2 sections. 8 drawers (each with lock and number plate); 2 double cupboards; 2 plumbing access cupboards. Lead drain fittings. 2 each, double gas cocks, cold water pantry cocks; metal upright rods with Greenlaw arms. Hamilcote top; body of selected birch finished Golden Brown.

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Despite the enormous demand for Hamilton school equipment—despite constantly increasing material problems—Hamilton offers pre-Fall delivery of standard catalog items on all orders placed now. Don't gamble with crippling equipment shortages when school opens in September—determine your requirements and order now.

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Hamilton working surface; toe space faced with black rubber. Canopy and elbow are lead coated.  $\frac{1}{2}$  H.P., 60-cycle A.C. motor—mounted on blower shelf equipped with cork silencers—exhausts 500 C.F.M. Thermal overload switch at right of hood. Sliding sash fully counter-balanced. Constructed of selected Northern Birch, finished Golden Brown.

**V-1620 Student Drafting Table**

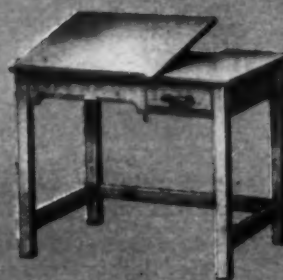
(Shows here with V-1621 and V-1623 units)



The V-1620 Table, equipped with V-1621 Tool Drawer Unit and V-1623 Board Storage Unit, will serve 6 students. The two storage units can be assembled either to the right or left, offering maximum flexibility for most efficient utilization of floor space. Simple, sturdy top adjusting mechanism. Northern Wisconsin Birch; Golden Brown finish.

**L-2100 3-foot Instructor's Desk**

The L-2100 offers maximum utility in minimum floor space—overall dimensions, length 60", width 30", height 37". Generous size pullboard; 4 drawers, 1 equipped with 14-tumbler lock, 1 letter-file size. Duplex A.C. outlet, single gas cock, cold water pantry cock, lead drain fittings, upright rod with Greenlaw arm. Birch, finished Golden Brown.

**V-1704 Student Drawing Table**

Solidly built of Northern Wisconsin Birch throughout, and attractively finished in Golden Brown, the V-1704 offers easy, fool-proof top adjustment, without protruding levers. Both tilting and stationary tops are generous work-size, and tilting top is equipped with adjustable paper ledge. This table withstands schoolroom abuse remarkably.

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### AN ASPECT OF WAR AND EDUCATION

The official *School Board Letter of the Glencoe, Illinois Schools* suggests a point of view on education in 1950-51, prepared by Supt. Paul Misner, that deserves serious thought:

As we face a new and uncertain year together I would say that we should seek among other things to achieve the following:

1. Recognize that the schools of America represent a first line of defense in the struggle of our way of life for survival and be as fully prepared for sacrifices as we shall expect sacrifices of those who are serving on the battlefields of the world.

2. Recognize the tremendous responsibility that we have for the children under our guidance and care. We need to remember that these children have always lived in a confused and unstable world. It is our responsibility to provide them with the security and the steady sense of direction that will be of such great importance in their social and emotional development.

### SCHOOL ACTIVITIES IN BELOIT PORTRAYED IN PICTURE AND TEXT IN BELOIT DAILY NEWS

The *Beloit Daily News*, in a recent issue, devoted a 12-page, full newspaper-size supplement to the activities of the city schools. The photographs portrayed work carried on in cooking, social studies, student government, sewing, mathe-

matics, language arts, commercial courses, and athletics.

Teachers, department heads, supervisors prepared the articles which were addressed directly to parents and discussed the purposes and present programs of the schools. The statements were based largely on committee and workshop studies done by the teachers as a part of the in-service training and total improvement program led by Supt. Fred N. Johnston with the approval of the school board. A typical article was devoted to the science program, which begins in the kindergarten and carries through the senior high school. The program is composed of five major areas, including (1) Living Things, (2) Matter and Energy, (3) Earth and Sky, (4) Health and Safety, and (5) Conservation. Certain aspects of these areas are taken up each year, beginning with the simple principles, and gradually expanding from grade to grade.

Health and safety are emphasized during each year of science. In the first three grades the emphasis is on home and school safety, cleanliness, clothing and food. In the fourth through the sixth grades, an introduction is made to body structure, contagious diseases, sources of infection, first aid, and other courses. In the seventh and eighth grades general safety and nutrition, alcohol and body systems, their purposes and structure are taken up.

In the senior high school a student begins to specialize. Biology is required to some extent and is usually taken in the tenth year. Physics and chemistry are offered as electives for those planning on going to college and those whose interests are such that they will profit from these courses.

Practical science is the fourth science offered in the senior high school. This course is designed for those whose formal training will be terminated on graduation. Emphasis is on the practical values, those things that a person must know in order to make scientific developments available in present-day life.

The major objective in science teaching throughout the course is to help develop a well-adjusted individual. This involves not only the teaching of scientific facts, but developing the power to think scientifically, and to use the scientific method in daily life.

### SPECIAL STUDIES

► Las Vegas, N. Mex. A pre-nurse class, as an extension of the high school diversified occupations course, has been introduced in the high school. Firsthand training is available at the Clark County General Hospital, where students will assume the duties of pre-nurse training on a paid basis. In addition, daily classes will be conducted in the high school in subjects related to the training program. Class instruction in the hospital will be conducted under the supervision of regular staff members, including doctors and nurses.

► Coffeyville, Kans. The board of education has approved the establishment of training classes for employees in defense industries.

### COMING CONVENTIONS

Jan. 8-9. *Nebraska State School Board Association*, at Lincoln. Headquarters, Cornhusker Hotel. Secretary, Frank H. Gorman, University of Omaha, Omaha. Attendance, 300.

Jan. 11-12. *Tennessee School Boards Association*, at Nashville. Headquarters, Andrew Jackson Hotel. Secretary, W. A. Shannon, Nashville. Attendance, 200.

Jan. 21-23. *Louisiana School Boards Association*, at Lake Charles. Secretary, Fred G. Thatcher, University Station, Baton Rouge 3, La. Attendance, 400.

Jan. 23-25. *Manitoba School Trustees Association*, at Winnipeg, Canada. Headquarters, Civic Auditorium. Secretary, Robert Love, Melita, Manitoba. Attendance, 700.

Jan. 31-Feb. 2. *Minnesota School Boards Association*, at St. Paul. Headquarters, Hotel Lowry. Secretary, William A. Wettergren, St. Peter. Attendance, 1500.

Feb. 16-17. *National School Boards Association*, at Atlantic City, N. J. Headquarters, Chalfonte-Haddon Hall Hotel. Secretary, Edward M. Tuttle, 450 E. Ohio St., Chicago 11, Ill. Attendance, 300.

Feb. 17-22. *American Association of School Administrators*, at Atlantic City, N. J. Headquarters, Convention Hall. Secretary, Worth McClure, 1201—16th St. N.W., Washington 6, D. C. Attendance, 14,000.



## For Classrooms...



This 32'x60'x10' Butler rigid frame building provides increased classroom facilities for Georgia Institute of Technology, Atlanta, Ga.

The clean, trim exterior presents an attractive modern appearance, and the windows are arranged to provide ample lighting and ventilation.



## For Gymnasiums...

(Left) Gymnasium and auditorium facilities are combined in Butler Building used by Suring, Wis., school. Combination bowstring truss and rigid frame construction assures maximum usable space.

## For Auxiliary Buildings...

(Right) At Monticello, Iowa, this Butler Building is used as school bus garage and repair shop. The straight sidewalls and clearspan construction provide plenty of room for maneuvering vehicles.



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## SCHOOL BUILDING STANDARDS

The board of education at Santa Ana, Calif., has carefully examined its 1949 plan requirements, its school building specifications, and contractual documents and has ordered changes to adjust these basic school building tools to present 1950 conditions of (a) the supply of materials; (b) the newer contractual means for improving the relations between the board and the building contractors.

These changes in one community point to the fact that standards in school building planning and construction are never of any value unless they are constantly under scrutiny and frequently brought up to date. In reality they are not standards but are current good practice. Any standard so called is in reality a current requirement which is satisfactory only until new educational practices, new materials, improved devices, better constructional methods, and more effective instruments of contract are found.

## SCHOOL BUILDING NEWS

► The board of school trustees of Dist. No. 1, town of Smithtown, in Suffolk County, N. Y., has completed a 12-room elementary school building. The building which cost \$650,000, contains a gymnasium, an auditorium, a library, a music room, and a cafeteria kitchen, and will be used by children in the first six grades.

► Bonham, Tex. The school board of the independent district has begun the erection of two new school buildings, comprising a 22-room elementary school and a vocational building. George L. Dahl, Dallas, has prepared the plans and specifications for the buildings.

► Cairo, Ga. The Grady County board of education has launched a school survey, which will be used as a basis for the formulation of a county-wide school building program. The program will include new high school buildings at Cairo and Whigham, and substantial improvements for every school in the county. Pendleton Mitchell, director of surveys and field services, and C. W. McGuffey, consultant of the State Education Department, will be in charge of the survey.



## TECHNICAL ADDITION TO THE TUCSON SENIOR HIGH SCHOOL

(Concluded from page 57)

sists of standard cinder block interior walls, rough texture brick for the exterior walls and steel reinforced concrete pilasters supporting the fabricated roof trusses. The ceiling and roof of the shop area is composed of fabricated sheet metal sheathing with  $1\frac{1}{2}$  inches of fiber insulation mopped on with hot tar and a three-ply built up roof mopped on the insulating board. Each shop is equipped with a wide overhead door so that trucks can be backed right up to the shop for the delivery of supplies, machinery, and equipment without any necessity of transporting through halls, inside doorways, and so forth. The entire shop area is equipped with a buss-duct system of wiring so that either 110 v. single phase, 210 v. single phase, or 208 v. three phase current can be tapped on at two-foot intervals from the buss-duct crossing the shop. All conduit for the wiring is run overhead and is exposed in each shop. By running the conduit exposed it will be an easy matter at a later date to make additions, alterations, and changes in wiring machinery.

The entire building, both the one-story shop wing and the three-story main structure, is cooled by evaporative cooling with 15 evaporative coolers run by 5 h.p. fans in each cooler. The cool air is piped through plenum chambers and duct work to every classroom and shop. In the Arizona country, with low humidity during the entire year, this is a very satisfactory way of cooling the building. It provides at the same time forced ventilation, since there is a complete air change about once every four minutes in each classroom and shop area.

Lighting throughout the building is accomplished by means of eight-foot slim-line fluorescent fixtures with two rows of four-light fixtures continuous through all classrooms and four-light industrial fixtures continuous on eight-foot intervals across each shop area. The halls are lighted by continuous single-light stripping through the middle of each hall. The lighting has been so designed that each classroom or shop area will have a minimum of



The business department is equipped with typical department store furniture and includes show windows where problems of display can be worked out by students.

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35-foot candle illumination for night operation.

Birch trim throughout the building, green chalkboards, adequate bulletin boards and display cases, pastel colored walls, blond furniture, modern furniture and equipment make this building a most pleasant place in which to work. Simple lines and careful planning have created a building which is beautiful, fine, and functional. All of Tucson likes this new school building.

### PERSONAL NEWS

► The board of education of Pasadena, Calif., has named FRANK RALPH WALKUP acting superintendent of the city schools, to succeed Willard Goslin. Mr. Walkup

has served the school system many years both as principal and administrator and has an outstanding record as an educator.

► DR. MORTIMER BROWN is the new superintendent of schools at El Paso, Tex., elected to succeed A. H. Hughey.

► D. C. CORBIN has been elected superintendent of schools at Chetopa, Kans., to succeed L. J. Anderson.

► S. A. BALLANTYNE, of Garner, Iowa, has been elected superintendent at West Union, to succeed the late C. B. Christian.

► W. R. RICE has been appointed acting superintendent of schools at Jasper, Mo.

► SUPT. PERRY A. TIPLER, of Oshkosh, Wis., has been re-elected for a new three-year term, beginning January 1, 1951.

► HAROLD H. EIBLING, of Elyria, Ohio, has accepted a position as first assistant superintendent of schools at Akron, Ohio.

► J. ROY DICKEY has been re-elected president of the board at Mt. Lebanon, Pa. DR. A. L. LEWIN has been named vice-president, and H. H. ROTHROCK, secretary.



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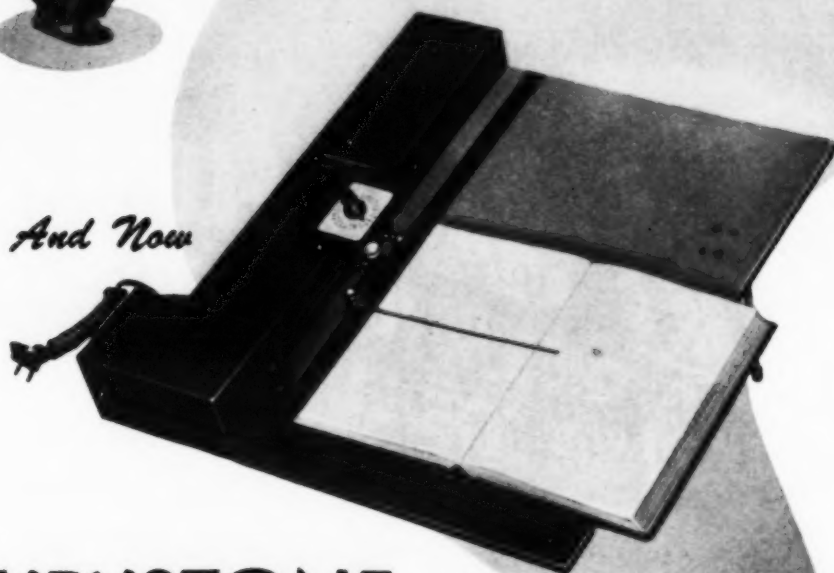


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## ART COMMISSION LOOKS AT THE NEW SAN FRANCISCO SCHOOLS

(Concluded from page 49)

stages, is particularly pleased about its development at this stage, and anticipates with enthusiasm its submission as final preliminary drawings. The photograph of the excellent perspective drawing showing Mount Davidson in the background was a great aid to the committee in forming an estimate of this unusual design.

**Fremont Elementary School — Project No. 15, Hertzka & Knowles, Architects**

The elevations and fenestration are well

designed and express the fine organic quality of the structure. On the west, presumably to give protection from the afternoon sun and westerly glare, a concrete canopy has been introduced. The structural drawings reveal it to be a continuous, solid, downward-sloping concrete slab of unusual appearance. We are pleased to see experimentation with a new form, but suggest further study to relieve the present canopy of a possible heavy or somewhat clumsy feeling.

The indications of landscaping are most promising. We suggest the shrubbery indication at the gate on Anzavista be extended to the north and south as a continuing strip of tree planting on Anzavista Avenue for the full length of the playground. This will have a beneficial effect upon the appearance of the

large area of playground pavement.

The committee on architecture is highly gratified with the consistent way in which the studies for this project have been developed from early interesting sketches through subsequent stages to the present final stage of preliminary work, marked by design of superior character. The Fremont Elementary School takes its place in a position of prominence among several previous submissions.

## Sunnydale Elementary School — Project No. 2, Spencer & Ambrose, Architects

A design of great beauty and maturity of conception, it promises to be one of the outstanding works of architecture done in San Francisco in recent times.

The architect has made the most of the sloping site, by creating a series of play areas, terraces, and platforms. A basic skeleton landscape planning has been well co-ordinated with the architectural structure, but the Committee on architecture looks forward to a clarification of landscape detail, planting, and refinement in the next stage.

## EDUCATION DEMANDS TV TIME

Educational organizations, backed by leaders of industry and Congress, are engaged in a fight for reservation of television channels for education and public service. A new Joint Committee on Educational Television has presented a request to the Federal Communications Commission demanding that one TV channel in each large city be set aside for noncommercial educational use. The Committee has asked that a certain amount of time be made available for purposes of educational telecasts on the existing stations.

## SCHOOL BUILDING CONSTRUCTION

During the month of November contracts were let, in 11 Pacific Coast states, for seven school buildings, to cost \$1,110,126. Twenty-five buildings were reported in early stages of planning, at an estimated cost of \$12,453,220.

During the month of November, 1950, Dodge reported that contracts for school buildings, let in 37 eastern states, amounted to \$109,431,000. The contracts embraced 410 school and college buildings and 16 laboratories and science buildings.

## SCHOOL BOND SALES

During the month of October, 1950, school bonds in the amount of \$63,863,000 were sold throughout the United States. The average yield of 20 bonds, as of October 26, was 1.77 per cent.

The largest bond sales were made in California, \$1,849,000; in Florida, \$13,110,000; in Iowa, \$2,019,000; in Massachusetts, \$6,024,000; in Michigan, \$1,337,000; in Minnesota, \$1,147,000; in New Jersey, \$1,138,000; in New York, \$8,935,000; in North Carolina, \$1,280,000; in Ohio, \$4,235,000; in Oklahoma, \$3,611,000; in Pennsylvania, \$3,079,000; in Tennessee, \$5,400,000; in Texas, \$2,719,500.

► Pueblo, Colo. School board No. 60 has sold \$4,685,000 of 25-year bonds to a syndicate of financial firms, for \$4,689,626.73, at a net interest rate of 1.7046 per cent. The bonds had previously been approved by the voters and the proceeds will be used to construct an elementary school and a junior high school building.

► At Caldwell, Idaho, the voters have approved a \$180,000 school bond issue for building purposes. The proceeds of the bonds will be used for the construction of a six-room addition to one of the elementary schools.

## THE FUTURE OF ARTIFICIAL LIGHTING OF SCHOOLROOMS

(Concluded from page 60)

toriums will eliminate their bare incandescent lamp cluster fixture and change to soft atmosphere indirect lighting from suspended fixtures, wall urns, and decorative coves. Well-shielded and controlled downlighting equipment will be used on dimmers to provide any desired level over the seating area.

Many school superintendents are becoming well educated in lighting matters and many innovations in lighting methods are going to come from their investigation in the use of light.

## ROCHESTER'S MODERN ELEMENTARY SCHOOL

(Concluded from page 43)

if these should ever prove to be necessary. Classrooms and corridors may be extended to provide for an additional four, eight, or twelve classrooms to the south wing of the building.

The heating system of the building consists of two steam boilers fired by either gas or oil, with an automatic temperature control in each room. Charged-plate-type electric air filters have been installed. The air is brought in from the roof, passed through the filter, heated to the proper temperature, humidified, and then passed through ducts to the rooms. The stale air goes out registers and through the lockers in the corridors to keep the lockers dry.

Corridor floors are of terrazzo. Pink, peach, and gray china tile has been used on the lower half of the corridor walls with plaster above. Lockers in the hallways are light buff in color. The room floors are of vari-colored asphalt tile squares.

The school ground area is sufficient to provide play and activity space both during and after school hours. Floodlights are arranged to light the area west of the building for evening use. Provision is made in the recreation program for hockey, and there is wide use of the iced area in the afternoon and evening during the winter months.

Associate architects for the building were Peter P. Bross and Harold H. Crawford of Rochester. The G. M. Orr Company of Minneapolis served as mechanical engineers. The architects worked in close co-operation with teachers and administrators in planning the building, and visits were made to the best known buildings within the Chicago and north-west area during the planning period.

Thomas Jefferson was a great architect in the planning of school buildings. The people of Rochester believe that their new elementary building is worthy of the name Jefferson.

The school building program in Rochester is being financed from a \$1,800,000 bond issue voted by the people of Rochester, and from current revenue. Payments for the Horace Mann and Jefferson buildings and for additions now under way to the Edison and Folwell buildings have been paid from this fund. Furniture, equipment, and landscape work have been paid from current revenue. The next phase of the postwar program is to be a pri-

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mary unit elementary building for the north-west area of Rochester. For this land has already been purchased.

Rochester feels and sees the need for new buildings in view of the great increase in the postwar birth rate and because of the rapid growth of the city. The Jefferson building which has just been completed is a part of the effort of Rochester to provide an adequate and a modern program for its children.

### NEW ARCHITECTURAL FIRM

The firm of Daniel, Mann & Johnson, architects, Los Angeles, Calif., have combined with the firm of Ivan F. Mendenhall to form a new partnership of Daniel, Mann, Johnson & Mendenhall. The new firm is equipped to pro-

vide its clients with complete architectural and engineering services under one management. The firm will be engaged in the planning and erection of schools throughout California.

### SCHOOL BUILDING NEWS

► At Molalla, Ore., dedicatory ceremonies were held December 8, marking the completion of a classroom annex, heating plant, vocational building, and gymnasium. The annex includes a music department, a physical science department, a "little theater," a library, and several classrooms. The vocational building houses the vocational agriculture and industrial-arts departments, and the gymnasium includes dressing rooms for boys and girls, a gymnasium room, and basketball floor, with a seating capacity of 2000 persons. A bond issue financed the project and collections for final payment are being made this year.



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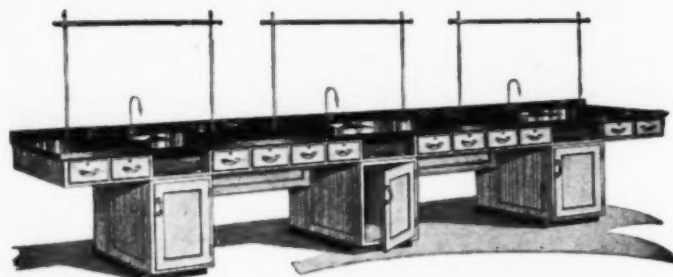
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### ESTIMATING FUTURE SCHOOL ENROLLMENTS

(Concluded from page 32)

and 1964. The estimated per cents that Illinois enrollments then will be of 1950-51 enrollments are: kindergarten, 142; grades 1-6, 133; grades 7-9, 159; grades 10-12, 168.

If a school system is not organized on the 6-3-3 plan but on some other plan such as the 8-4, for example, all that is necessary in varying the procedure is that the totals be found for the ages corresponding to those grades.

#### Five Basic Assumptions

As stated previously, several assumptions are involved in the application of this procedure. For some of these, corrections may be made if they do not hold, and if sufficient data bearing on the point are available. These assumptions are as follows:

The fraction of all children of the district attending public schools as contrasted with those attending private schools or not in school at all will remain constant.

The policies of the school system as to promotion, retardation, and elimination, will remain the same.

Except as it is affected by numbers of births occurring there, the population of the district concerned will remain static.

Mortality rates will continue to be the same as have existed in recent years.

The holding power of the school system will not change. This is very likely to be true through the elementary school. It may, and indeed should, increase in the kindergarten and in the upper secondary years.

### ART ROOMS FOR NEW SCHOOL BUILDINGS

(Concluded from page 31)

The art room described may serve as the standard minimum for both general or vocational schools. Although planned primarily for elementary and secondary schools, the art unit described will be found readily adaptable to the professional art school, college, and university, especially to the institution engaged in the preparation of art teachers, and to the art museum and public library where facilities are often needed for carrying on an educational program. The unit should also be adaptable to the hospital where occupational therapy rooms are necessary for the rehabilitation of patients.

### A JUNIOR HIGH SCHOOL THAT'S FUNCTIONAL PLUS

(Concluded from page 45)

physical education rooms, asphalt tile in the classrooms, and terrazzo floor and base in corridors, cafeteria, kitchen, and rest rooms.

Walls and ceilings will be finished in light pastel colors. All wood finishes will be natural.

All corridor walls to door height, all walls of the kitchen, the wainscot in dining room, the main toilet rooms, locker rooms, and pool will have structural glazed tile facing.

Windows will be architectural projected with hopper vents at the bottom. Where window guards or fly screens are required, double hung steel windows with hopper vents will be used;

and in swimming pool room, glass block will be installed.

The entire building will be equipped with the latest and most efficient type of lighting fixtures.

The new school, when completed, will bring to nine the number of junior high schools in the Tulsa system, and total number of schools to 55.

### SCHOOL BOARD ENGAGES IN LONG-TIME PLANNING PROGRAM

The board of education of Paragould, Ark., during the past ten years, has been engaged in a long-time building improvement program. This program involved the redecoration, refurnishing, and reconditioning of all school buildings. The plan as followed calls for work to be done on a few rooms in each building and the preparation of a budget each year to take care of the expense involved.

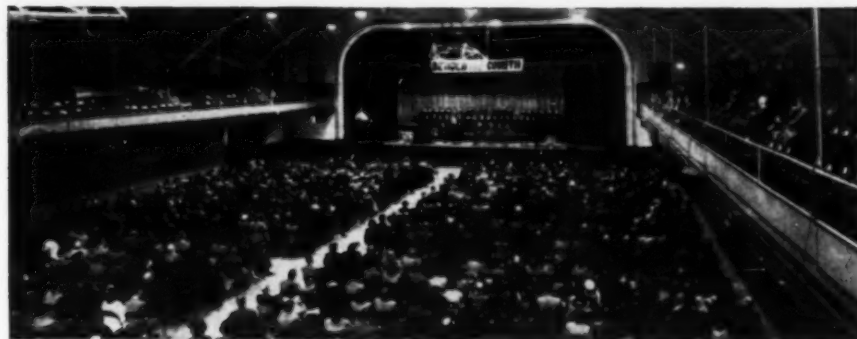
The cost of the program, it was found, was nominal, since all of the labor involved is done by the janitors, supervised by the superintendent. Each teacher makes suggestions as to her favorite colors and care is taken to have no two rooms in the building decorated alike.

The schedule of reconditioning was carried out over a ten-year period and involved redecoration of study hall and corridors in the high school, interior painting in elementary schools, installation of new blackboards and shades in elementary schools, new ceilings, new tile floors, and shades in some elementary schools, remodeling of rest rooms, remodeling of building to provide four additional classrooms, as well as new blackboards, furniture, lighting, and bookshelves.

During 1948-49 the board converted and remodeled the NYA building to provide three classrooms to relieve crowded conditions.



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### LEGAL COSTS IN ISSUING BONDS

(Concluded from page 22)

Bond house on *percentage* fee basis plus local attorney on *flat fee* basis 1

Bond house on *percentage* fee 1

The median fee charged was \$1,000-\$1,099.

The smallest bond issue for which this fee was charged was \$125,000 and the largest was \$450,000.

The median bond issue was in the amounts of \$375,000-\$400,000. The highest fee in this range was \$1,000-\$1,199 and the lowest fee \$1,000-\$1,099.

The five highest fees charged ranged from

\$3,500 to \$4,000. The smallest bond issue in this range was \$1,240,000 and the largest \$2,500,000.

The five lowest fees charged ranged from \$200 to \$499. The smallest bond issue for which this range of fees was charged was \$110,000 and the largest \$175,000.

The aggregate amount of bonds issued in the 22 school districts studied and for which the attorney's fees were on a *flat fee* basis was \$13,715,000. The total fees charged by attorneys exclusive of approving opinions and the printing of bonds amounted to \$37,220. Computed on a percentage basis the flat fees charged by attorneys average 27/100 of 1 per cent of the amount of the bond issue. Four school superintendents reported that

attorneys were paid on a percentage basis. Three reported the percentages as 5, 1, and 1/5 per cent respectively.

### AN IDEA-LOGICAL SCHOOL BUILDING PROGRAM PROCEDURE

(Concluded from page 24)

By the way, Mr. Schmidt, would you recommend some good school architect?"

"That I cannot do, as you may appreciate, but I'll give you a list of a dozen or more competent ones and you can select one yourself. Interview as many as you wish, give them the 'dope' as we have discussed it — and I'll give you the outline in writing — and then make your choice. You won't go wrong if you select one from this list or even someone else, so long as he is familiar with schoolwork. You can visit some of the schools planned by these men.

"He can and will advise you about all details, types of construction, materials, interior arrangements, finishes and service systems, and all the hundreds of problems confronting you. Whether a U or E or L type of building is best suited. Just one other thought at this point — have your building located in the southwest corner of your site with the main entrance and façade facing the south, on Pearson street; in that way you will get east, west, and south exposure and minimize north sections. It will also permit the most advantageous use of the 12 blocks involved. You had thought of this? Good, and no doubt your architect will advise likewise."

And so ended a "perfect day" and all seemed pleased with the progress made and features discussed — even the newspaper people who came in at the end of the conference.

The writer will now return to the status of the "third person" and hopes he has not carried too many coals to Newcastle and that the more prominent points discussed and presented may have within them a modicum of good sense and materials which may be of use to the reader of this brief article and its analytical and *idea-l-ogical* or *-istical* approach and basis. O.K.? Then the writer will feel repaid for his small effort in outlining, what in his opinion, was a defensible procedure in a Schoolhouse Building Program.

### PERSONAL NEWS

► DOUGLAS M. BROWN, of Ashland, Wis., has been elected superintendent of schools at Portage, where he succeeds A. J. Henkel.

► SUPT. W. T. HANES, of Cameron, Tex., has been re-elected for the next school year.

► SPENCER W. MYERS has been elected deputy superintendent of schools at Indianapolis, Ind.

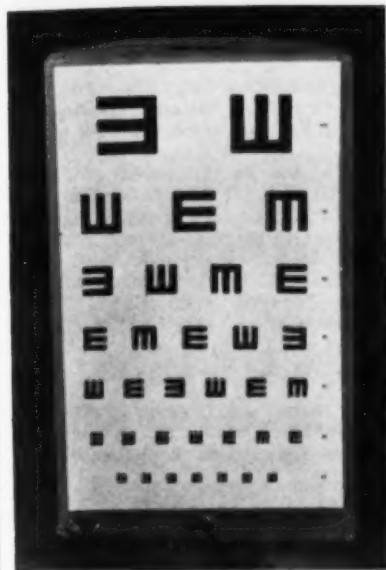
► The Milwaukee board of school directors, Milwaukee, Wis., has appointed HOWARD AKER to the position of Researcher in the field of finance and general administration in the central school staff.

► R. W. URIE has been elected president of the school board at Parsons, Kans., to succeed the late Max Chase. W. A. DEARTH has been elected a new member of the board.

► The school board of Waukesha, Wis., has reorganized with MORGAN R. BUTLER as president; W. W. GILHAM as vice-president; and R. G. HEIN as secretary.



## Thousands of Schools From Coast to Coast Are Using the Good-lite Translucent Eye Chart for Routine Examinations



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\*Approved by Underwriters Laboratories.

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Illustrated is just one of the many installations of Berlin Chapman ALLSTEEL Frame Bleachers, whose exclusive design and our production facilities make them the least expensive permanent bleachers on the market. While absolute safety is the first factor in the manufacture of the ALLSTEEL Bleachers, economy is effected by mass production techniques developed in one of the largest fabrication plants in Wisconsin . . . Complete flexibility for indoor and outdoor application and their ease of assembly and dis-assembly for changing seating requirements in an inexpensive solution to your seating problems. Design approved by Wisconsin State Industrial Commission. Write us for complete details. . . . Send us an outline of your requirements.

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## ANOTHER REGIONAL HIGH FOR CONNECTICUT

(Concluded from page 28)

squad of the sport with most participants will suffice for the term. The visiting team room will need about 40 of these lockers.

### The School Cafeteria

The cafeteria has two serving lines to expedite service and use the space and equipment more efficiently. One of these is for platter luncheons and other hot foods. The second line serves cold sandwiches, milk, and ice cream. Soiled dishes and empty bottles are to be returned to the window beyond the end of the serving line. The flagstone terrace bounding the cafeteria windows extends the dining area during warmer-weather months.

This cafeteria is also well located for community use. Both the cafeteria and the gymnasium are accessible from a short corridor near a parking space. This short corridor has a coat room, a ticket window, a telephone booth, public toilets, and corridor gates to close off the remainder of the building.

The administration wing includes a superintendent's office, quarters for the latter's secretary, a vault, a general office, a principal's office, a guidance office, a conference room, and a faculty room with separate entrances and washrooms for men and women teachers. The women teachers also have a powder room and rest room.

The health suite is readily accessible for community use after school hours.

Field toilets for male and female are available without access to any other part of the building. Such can remain unlocked for use after school, week ends, or holidays by the community.

Field equipment storage is provided under the visiting team room. Access to this storage space is afforded by means of a ramp adjacent to the shop windows.

For the custodians the building should prove convenient. Virtually all material but cafeteria supplies will be delivered to the receiving room. For this room there is an unloading platform to meet truck height. Janitors' supplies are stored in this receiving room. General educational supplies are stored just across the corridor from this receiving room. The store room opposite the teachers' room is a book room.

The janitors have a service sink and small tool and supply closet at each of the four points of corridor intersections. The waste paper is emptied into the incinerator off the corridor near the northwest corner of the building. To have all rooms on this single floor is also of great advantage to the janitor.

Cafeteria delivery is very easy. The loading platform at the entrance to the service drive is adjacent to the food storage space. The cafeteria manager's desk is quite convenient to this entrance so delivery men can easily procure receipts for orders. The entrance has screened alcoves for garbage cans. From these garbage can be collected after the cafeteria corps has withdrawn for the day.

School bus loading and unloading stations face south and east for maximum comfort in a region where cold winds are usually from the west and north.

People in the towns served by Regional High School District Number Four are very eagerly anticipating the opening of this new plant by December, 1951.



► Miss Gertrude A. Golden, appointed to the Philadelphia board of education by the board of judges, has held the highest position ever given to a woman in the Philadelphia schools.

Miss Golden, who retired in September as an associate superintendent was the first woman ever to hold that office. Associate superintendents rank next to the superintendent and form his cabinet.

Her appointment to the board of education is the first time that any member of the administrative staff has been given the post, although former teachers have been members of the board.

Miss Golden who succeeds Mrs. William E. Lingelbach as associate superintendent, has city-wide supervision of personnel, organization, and administration of elementary and special schools and of the child care centers.

► Akron, Ohio. The board of education has prepared and issued a Handbook of Policies and Procedures, which contains descriptive material and complete information about each department.

► The school board of Nehalem, Ore., has set up a new plan, through which the board pays the athletic insurance for boys who participate in school athletics. The insurance is financed through the budget approved by the county board.

► Boise, Idaho. The school board recently refused to recognize an American Federation of Labor union as a bargaining agent for the custodial personnel of the school district. It did, however, vote to adopt a 15 per cent pay increase for those employees. The custodial employees, at an election, had voted 37 to 19 in favor of the AFL Building Service Employees Union. The new schedule of wages and working conditions, to become effective immediately, is retroactive to September 1.

► The St. Louis Council of the American Jewish Congress has decided that it would be dangerous and unconstitutional to introduce the teaching of Jewish ceremonies or the celebration of Jewish holidays in the public schools. Three of the participants on a panel came out strongly against giving recognition to the Jewish year-end observance.

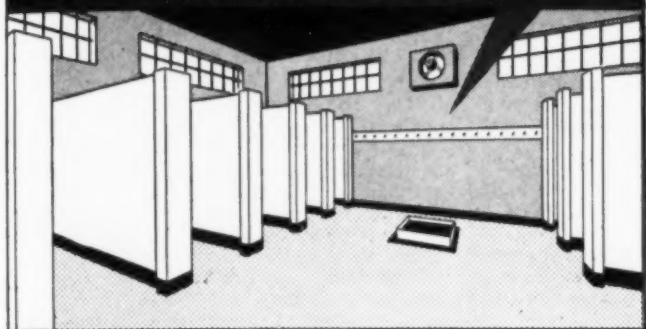
► The public schools of Spartanburg County, S. C., are operating under a new law which became effective May 6, 1950. The law which provides for a county board of education, includes provisions for the method of selection, duties and functions, selection of trustees, and financing of the schools.

The central authority of the school system of the county is vested in a county board of 12 members who have no official connection with the schools, and whose duties and powers are outlined. Under the plan the terms of four members of the board expire at the end of the second year, the terms of four members expire at the end of the fourth year, and the terms of four members expire at the end of the sixth year.

Although the system is still new, it appears to be working quite well. Improvements in the service and in the schools will be made in the years to come. The plan is a long-range one and appears to be far-reaching in its effects.

► In Gonzales, Tex., the school authorities have begun work on a revision of the school curriculum, which includes a new setup for the education of exceptional children in the Warm Springs Hospital for Crippled Children. An in-service training program for teachers has been started. New special services have been introduced, including a new health program and school nurse, improved library service in white and colored schools, a new training program for cafeteria personnel to insure better service in the cafeteria.

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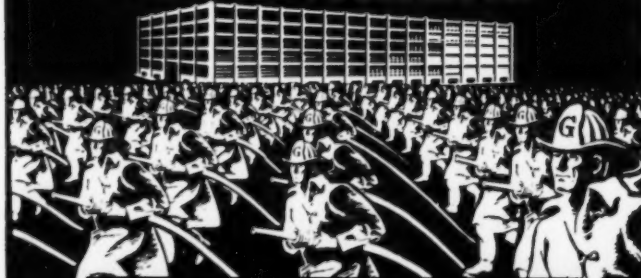
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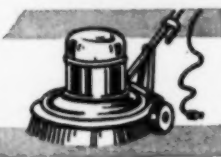
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## NEW SUPPLIES AND EQUIPMENT



### NATIONAL SCHOOL SERVICE INSTITUTE MEETS

The National School Service Institute, which is the trade association of American manufacturers and dealers in school equipment and supplies, held its annual convention at the Palmer House, Chicago, December 11, 12, 13, and 14, 1950. Following its policy of long standing the Association held to the program expressed in its slogan, "Service to the School Children of America."

The Association has for many years held that it can serve its members best if it places before and above other interests the interests of the school children. Much of its service to education has been rendered through co-operation with state and local school authorities, with teachers' organizations, parent-teacher associations, and with the educational divisions of such business organizations like the U. S. Chamber of Commerce and the National Association of Manufacturers, etc.

At the Chicago convention, the public relations program of the Association was ably reviewed and its benefits to public education were evaluated in the light of the numerous bulletins, brochures, etc., prepared and distributed under Association auspices.

The Association is at present co-operating in the efforts made by various school groups in Washington to maintain school efficiency in the emerging war situation. Contacts are now being made with government officials and emphasis is being placed on the idea that education is essential for holding our second line of defense. The necessity of maintaining full school plant efficiency during the next decade was definitely stressed and the essential harm of makeshift classrooms, overcrowded school building conditions, and obsolete equipment and supplies was brought out. We are entering the war emergency

with a shortage of school equipment which will definitely harm the children now enrolled. Facilities are badly overstrained and every effort must be made to provide adequate school plants for the increasing school population.

The Association urged that definite steps be taken to maintain the high rate of school building construction and equipment. This cannot be done unless there is complete co-operation between the school and business groups interested in public welfare, leading on to an over-all improvement of the efficiency of our educational institutions.

H. H. Avants, manager of the Gulf States Equipment Co., Dallas, Tex., was elected president of the Association, to succeed H. F. Robinson, of San Francisco, Calif. Hugh McCord, of the Nashville Products, Inc., Nashville, Tenn., was elected first vice-president. Lew Parmenter, Chicago, continues to be executive manager of the Association, with offices in the Palmer House, Chicago.

### IMPROVING SCHOOLROOM LIGHTING

At Floral Park, N. Y., an inadequate lighting system which could not be corrected by the use of larger incandescent bulbs because the school's wiring system was not heavy enough to carry a heavier load, gave students in a 20-year-old grade school only 5 foot-candles of illumination. The fixtures were spaced at wide intervals, creating glare at some desks and dark shadows on others. This uneven distribution of light also made it difficult for all children to see the blackboard clearly.

A new shielded fluorescent lighting system, designed by Sylvania Electric Products, Inc., has been installed, without increasing the diameter of the wiring system. The new fixtures which furnish seven times more light, are installed in two continuous rows of six fixtures each, spaced 10 feet apart. Each fixture contains two 40-watt warm-tone fluorescent lamps, shielded by louvers and plastic panels. Suspended from the ceiling

on 12-in. stems, the fixtures give both direct and indirect lighting, with a minimum of shadows and glare. The maintained light is 35 foot-candles at the desk level.

Light color gray paint on the walls, new desks, and a light colored linoleum add to the high level of illumination and provide better seeing conditions in the room.

### FIREPROOF PAINT-VARNISH REMOVER

The Hillyard Chemical Company has announced "Kurl-Off," a new quick-acting, non-inflammable paint and varnish remover. The material is a clear, colorless liquid, which lifts stubborn paint and varnish from wood surfaces in a short time. It spreads smoothly and fast and acts immediately in dissolving the finish—paint, varnish, shellac, or lacquer.

"Kurl-Off" contains no alkali, acids, water, benzol, or carbon tetrachloride. It is noncorrosive, nonstaining, and cannot burn or explode. It is also effective on metal and gives maintenance men a short-cut for all refinishing jobs in institutions and office buildings.

Complete information can be obtained by writing to the Hillyard Chemical Co., at St. Joseph, Mo.

### ALBERT PICK ANNOUNCES SCHOOL, COLLEGE, AND UNIVERSITY DEPARTMENT

President I. S. Anoff, of the Albert Pick Company, has announced the formation of a new school, college, and university department, to be conducted under the direction of John E. Beardmore. The new department will carry a line of classroom and school office furniture, classroom supplies, and building maintenance supplies.

Mr. Beardmore, who is assisted by James C. Allmon, comes to the Pick Company after extensive experience in the educational field. He was associated with the Chicago board of education in 1942, and in 1944 became assistant purchasing agent for the board. From 1946 to 1950 he served as director of purchases for the board. Most of his service has been with the Chicago board, and since 1940 he had worked on the board's lunchroom program in various executive capacities.

Merchandising for the new department will be in charge of Seymour Anoff.



(Left) Before remodeling the Floral Park schoolrooms were dark and gloomy. (Right) The remodeling raised the level of illumination by light finishes of walls and furniture and use of Sylvania fluorescent fixtures.



## BUS MANUFACTURERS MEET

At a recent meeting of the School Bus Body Manufacturers' Association, held in New York City, Dr. E. Glenn Featherston, of the U. S. Office of Education gave a lecture on "Pupil Transportation," in which he discussed the history of the development of the school bus and the importance of it in meeting transportation problems of school children. He pointed out that the total expense of school transportation amounts to 200 million dollars a year for the entire United States and is one of the largest single school outlay items outside of the educational program.

## NEW GRIGGS LINE OF SCHOOL SEATING

A new line of school seating, ultramodern in design, beautiful in appearance, designed and built for student comfort and correct posture.



Griggs Skyliner Chair Desk.

has been introduced by the Griggs Equipment Co., Belton, Tex.

The firm manufactures and distributes school seating and makes chair desks in three sizes — a tablet-arm chair, and straight chairs in four sizes for all ages of students in the Skyliner Series. This seating is being produced with the highest quality stamped steel and hardwood plywood, with maple or birch faces, and finish in beige metal and natural wood. It has been designed for the finest schools and is built to withstand wear and tear of a lifetime of service.

For complete information write to the Griggs Equipment Co., Belton, Tex.

## HOW WOOD IS USED TO BUILD BETTER SCHOOLS

The West Coast Lumbermen's Association has issued a 6-page illustrated circular describing the use of wood in today's better schools. It shows how wood meets construction requirements in every type of modern school design and offers illustrations depicting one-story schools built of wood. The Association points out that wood has the advantages of economy, durability, practicability, beauty, and flexibility.

Complete information is available by writing to the West Coast Lumbermen's Association, 1410 S. W. Morrison St., Portland 5, Ore.

## DELTA APPOINTS REPRESENTATIVE

John Claude has been appointed a special representative in the school field for the Delta Power Tool Division, Rockwell Manufacturing Company, Milwaukee, Wis.

Mr. Claude spent 26 years with the Bruce Publishing Company selling texts in industrial arts and trade and vocational education. He organized the John Claude & Associates, serving schools throughout the country in an advisory capacity on school shop planning. He enjoys a wide acquaintance in the industrial arts and trade school field and his service will be valuable to schools planning new shops and the best use of Delta equipment.

► DR. FOY MOODY and ERNEST N. MILLS are the first trustees to serve six-year terms on the board at Corpus Christi, Tex.

► PAUL H. CULLINAN has been elected to a one-year term as president of the board at Bridgeport, Conn. BENJAMIN R. SILVER has been elected secretary of the board, to succeed George A. Nichols.

## Advertisers Products and Services

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1951

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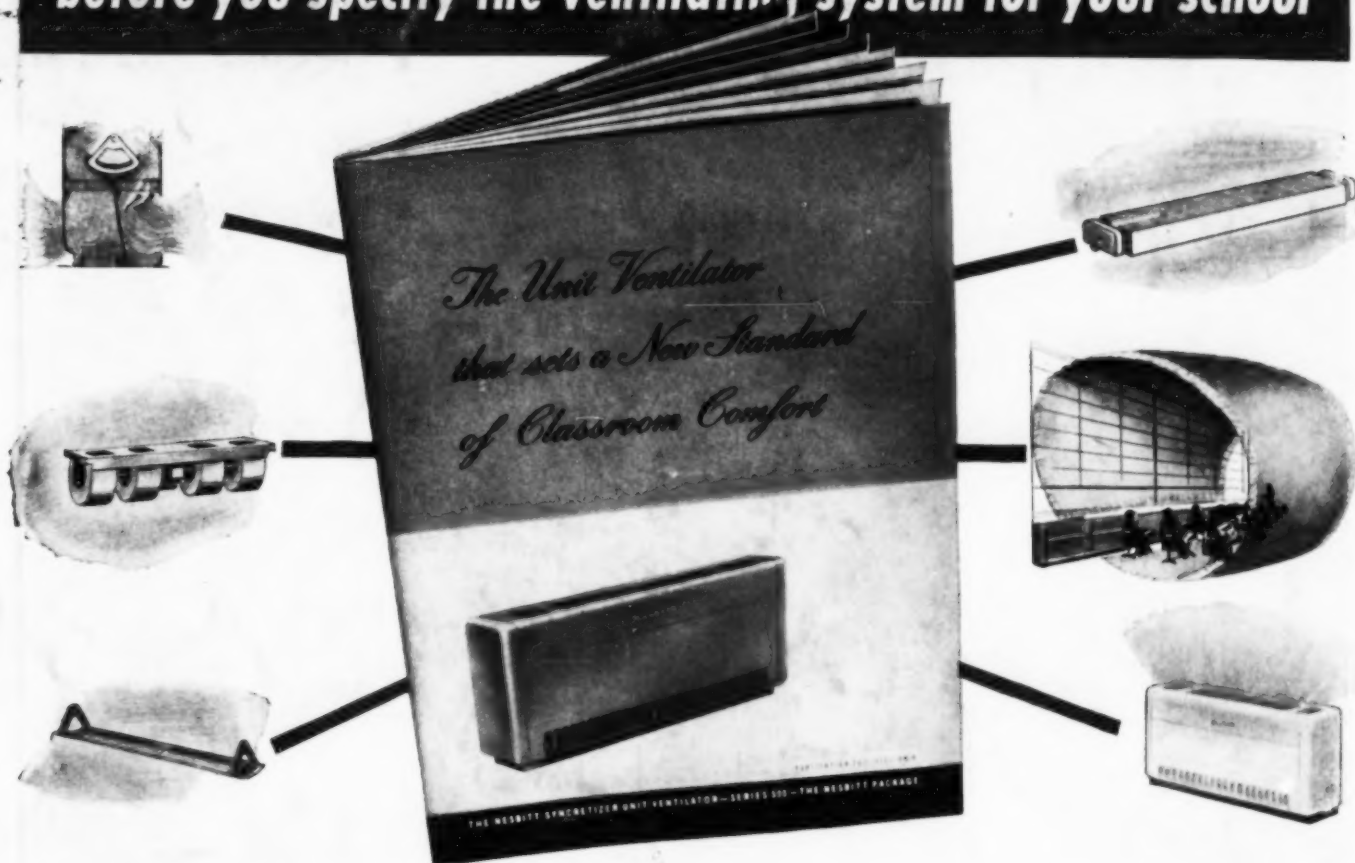
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